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# REPORT ON
# OIL AND HAZARDOUS MATERIAL SITE EVALUATION
# COMMONWEALTH CENTER
# BOSTON, MASSACHUSETTS

## VOLUME I

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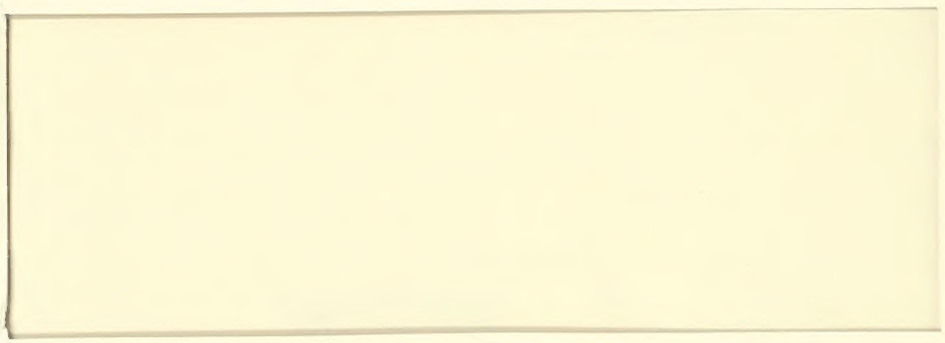

# REPORT ON
# OIL AND HAZARDOUS MATERIAL SITE EVALUATION
# COMMONWEALTH CENTER
# BOSTON, MASSACHUSETTS

VOLUME I

by

Haley & Aldrich, Inc.
Cambridge, Massachusetts

for

F. D. Rich Company of Boston, Inc.
Boston, Massachusetts

File No. 05746-41

October 1989

Haley & Aldrich, Inc.

Consulting
Geotechnical Engineers,
Geologists and
Hydrogeologists

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24 October 1989
File No. 05746-41

F. D. Rich Company of Boston, Inc.
99 Summer Street, Suite 1800
Boston, Massachusetts 02110

Attention: Mr. Gordon Hislop, Vice President

Subject: Oil and Hazardous Material Site Evaluation
Commonwealth Center
Boston, Massachusetts

Gentlemen:

We are pleased to submit our two-volume report entitled "Oil and Hazardous Material Site Evaluation, Commonwealth Center Project, Boston, Massachusetts". This report summarizes the results of our evaluation of the site.

This work has been undertaken in accordance with our revised proposal dated 27 January 1989 and your subsequent authorization.

Please do not hesitate to contact us should you have any questions concerning the report. Thank you for inviting us to undertake this project.

Sincerely yours,
HALEY & ALDRICH, INC.

Alexander G. Taft
Staff Environmental
Geologist

Edmund G. Johnson
Senior Vice President
Principal-in-Charge

William W. Beck, Jr.
Vice President
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# I. INTRODUCTION

## 1-01. GENERAL

This report presents the results of an oil and hazardous material site evaluation for the Commonwealth Center Project. The site comprises portions of two city blocks bordered to the south and east by Boylston and Washington Street respectively, in the midtown district of Boston, as shown in Figures 1 and 2 (1)*.

Commonwealth Center is a mixed-used development project that will be comprised of office, hotel, retail, parking, and cultural theatre uses. It is planned that the project be built in two phases, as outlined on Figure 2. The first phase (Parcel 30) is to include a 32-story office tower and a 13-story hotel. Phase II (the Keith Block) will consist of another 32-story office tower that will in part span over the existing Paramount Theatre. Five to six levels of underground parking are planned within the limits of Phase I. One to two basement levels are planned for Phase II. The Schematic Phase has recently been completed for Phase I and II. At this time, the final project configuration has not been fully defined.

## 1-02. PURPOSE AND SCOPE

This evaluation has been conducted to assess the risk that oil or hazardous materials exist on or beneath the ground surface at the subject site, such that the site could fall under the jurisdiction of the Massachusetts Oil and Hazardous Material Release Prevention Act, Chapter 21E of the Massachusetts General Laws.

Our evaluation is based upon a review of available information on site history, development, and usage; as well as information obtained from: site visits by Haley & Aldrich, Inc. (H&A) representatives, test borings and test pits, soil sample screening with a photoionization detector (PID) and gas chromatograph (GC), and chemical analysis of soil and groundwater samples.

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*Refer to listing of References attached to this report

## 1-03. RELATED INVESTIGATIONS FOR THE SITE

Previous investigations related to oil and hazardous materials and geotechnical evaluations of the site are listed below.

- Haley & Aldrich, Inc., Report on "Oil and Hazardous Material Site Evaluation, The Paramount Center Project, Boston, Massachusetts," dated 21 January 1986, File No. 5746.

- Hygeia, Inc., Survey Report of "Asbestos and PCB-Containing Materials, Commonwealth Center Development Site, Boston, Massachusetts," dated 31 May 1989, Project No. 5780.

- Haley & Aldrich, Inc., Report on "Preliminary Geotechnical Evaluation, Proposed Paramount Center, Boston, Massachusetts," dated 17 January 1986, File No. 574600.

- Haley & Aldrich, Inc., Report on "Preliminary Geotechnical Report, Commonwealth Center, Boston, Massachusetts," dated 18 January 1989, File No. 5746-01.

Previous environmental and geotechnical evaluations at the site were based on available subsurface information only. A geotechnical assessment is currently underway in conjunction with the environmental evaluation that includes a subsurface exploration program as well as a field and laboratory testing program. Information obtained in the geotechnical assessment and previous investigations have been utilized for this report.

## 1-04. ELEVATION DATUM

The elevations used herein are referenced to Boston City Base, wherein El. 0.00 is 5.65 ft. below National Geodetic Vertical Datum (NGVD).

## II. SITE LOCATION, SITE HISTORY AND USAGE

### 2-01. SITE LOCATION

The site includes several parcels of land in the midtown district (formerly known as the theatre district) of Boston. These parcels lie east of Tremont Street, north of Boylston Street, west of Washington Street, and south of the Boston Opera House located at 539 Washington Street, see Figures 1 and 2. Adjacent parcels include apartments, retail stores, and offices. The MBTA Orange line is located to the east of the site below Washington Street, and the MBTA Green line is located to the west of the site below the Boston Common. As shown on Figure 2 the site has been divided into parcels for ease in evaluation and discussion. The site presently includes nine buildings, labelled B1 through B9; two basements below parking lots, BB1 and BB2; one courtyard, C1; five parking lots, P1 through P5; and five side streets including:

- Mason Street Place
- Avery Place
- Haymarket Place
- Fayette Court
- Bumstead Court

### 2-02. SITE HISTORY AND USAGE

The entire site is part of the Colonial Boston (Shawmut) peninsula (2). By 1722, the Boston Common extended eastward to Mason Street and houses lined the site on Boylston and Washington Streets, formerly Frog Lane and Newbury Street, respectively (2,3). By 1814, the primary streets which presently abut the site were intact (4). The area remained residential until the late 1800s (5).

The first two playhouses in Boston were constructed within the site boundaries prior to 1890 (6). Hotel and restaurant construction followed; by the turn of the century, the section of downtown Boston encompassing the site became the established theater district in the city (6). Municipal water and sanitary sewerage service was available to the buildings in the area by 1895 (7).

Site history and usage, for the individual parcels as noted in Figure 2, has been described in detail, and chronological order in Appendix A. The following is a brief synopsis of the activities which took place on the Phase I and Phase II portions of the site.

A. Phase I Area

This area presently includes six buildings (B1 through B5, and B9), three parking lots (P1, P4, and P5), and one basement below a parking lot (BB1), see Figure 2. The Evans House (B9 on Figure 2) has been present since the mid 1800s (8). The State Theatre (B1), Morgies (B4), and the Avery Hotel (B5), have been present since the late 1800s and early 1900s (5,7,8,9). The Tremont Theatre, no longer standing, occupied the northern portion of the AllRight Parking Lot (P4) from the 1890s to the late 1970s (7,9,10,11,12). Site usage in the Phase I area has predominantly included theatres, restaurants, and hotels, as well as offices and retail stores, however some manufacturing has taken place on site including piano making and printing (5,6,7,8,9,10,11,12,13,14). Boston Edison, formerly Edison Illuminating, was also a former tenant, from the 1890s to the 1950s, occupying offices in the southern portion of what is now the AllRight Parking Lot (P4) from the 1890s to the 1950s (7,9,10).

B. Phase II Area

This area presently includes three buildings (B6 through B8), two parking lots (P2 and P3), one basement below a parking lot (BB2), and a court yard (C1), see Figure 2. The buildings, built in the early 1900s, are not as old as those in the Phase I area (8,9). The Paramount Theatre, the oldest of the three, was constructed in 1930. This was not the first theatre in the Phase II area however. By 1895, the Keith Theatre had been built in what is currently an AllRight Parking Lot (P3), surviving until the 1950s. Hotels were also abundant in this area, as they were in the Phase I Area. The Adams House Hotel, located where the Paramount Theatre (B8) is, was present from as early as 1885 to the early 1900s. Additional site usage included furniture manufacturing and tailoring. More recently a film processing facility was located on the first floor and basement of the Sallinger building (B7).

C. Use of Oil and Hazardous Materials on Site and Surrounding Areas

The site has remained encompassed by the theatre district since the late 1800s. Theatres, restaurants, and hotels have dominated the site, and the immediate vicinity, for the last 100 years. As a result, manufacturing activities within the site boundary have been minimal.

The lack of manufacturing activities in the area minimizes the potential for oil or hazardous material to be released to the soils and groundwater on site. However, several historical uses and findings, on and off site, should be noted. In the Morgies building (B4) highly flammable varnishes were part of the the piano making process in the late 1800s. In 1982, a 2000 gallon underground fuel oil tank was reportedly demolished in the Phase I area at 176 Tremont Street (P4), south of the Evans House (B9) see Figure 2 (15). There is no record of the condition or history of the tank other than it was demolished. However, remnants of old fuel oil lines were encountered in TP1A. A 1986 record search at the Boston Fire Department revealed that another fuel oil tank, 2500 gallons, was licensed for 607 Washington Street (B4) (15). No other information was available to indicate whether this was an underground tank or above ground tank, and no tank was observed at this location. Building department records indicate that in 1946 a coal vault was extended from the building at 607 through 611 Washington Street (B4) into Fayette Court (P1) to receive a 5000 gallon fuel oil tank, see Figure 2 (14). No tank was observed in this room during the site visit.

In the Phase II area no tanks were reportedly present in the past, however, within the immediate vicinity several tanks and manufacturing activities have been noted. The Boston Herald Traveler Building, built in 1930 and located on Tremont Street between Avery Street and the Mason Street Place, housed a newspaper publishing operation for approximately 25 years (6). From 1930 to 1968 the facility was licensed to store 300 gallons of gasoline underground (15). Two ink tanks, situated in a sub-basement at the northeast corner of the Herald Traveler Building, were reportedly filled with renovation rubble during the housing retrofit of the mid-1950s (16,17).

## 2-03. CURRENT SITE CONDITIONS AND USAGE

The site was visited several times by two H&A Environmental Geologists in March and April 1989 who made observations concerning existing site conditions. Current site conditions for the individual parcels shown on Figure 2, have been described in detail in Appendix A. The following is a brief synopsis of existing site conditions.

Ground surface is sloping relatively gently towards the East-Southeast. Ground surface elevations range from approximately El. 38.6 at Boring CC101 to approximately El. 25.5 at CC114. Drainage of runoff waters is provided by a series of catch basins connected to existing drain lines throughout the entire project site.

A. Phase I Area

Six buildings (B1 through B5, and B9), and one basement under a parking lot (BB1), were visited, see Figure 2. At the time of the site visit only four of the six buildings in this area, the Evans House (B9), Morgies (B4), Liberty Bookstore (B2), and the Haymarket (B3) were occupied. The State Theatre (B1), the Avery Hotel (B5), and the Bumstead Court Basement (BB1) have not been occupied for some time and as a result have been damaged by the elements and vandalism. Fuel oil tanks were encountered in the basements of the Haymarket (B3, 4,000 gallon, free standing), the Avery Hotel (B5, 10,000 gallon, partial bunker), and the Evans House (B9, 5,000 gallon, bunker), see Figure 2. A 10,000 gallon fuel oil tank is also located in a bunker in the Bumstead Court Basement (BB1). Petroleum odors were detected in the area around the tanks in the Haymarket and Evans House basements. Petroleum staining was observed on the pavement by the fill pipe located on Haymarket Place for the tank in the Haymarket building.

Parking areas P1, P4, and P5 were also visited. The parking areas were paved with asphalt and exhibited minor oil stains from parked cars. At the south end of Haymarket Place and the north end of Bumstead Court are several dumpsters, which are utilized by occupants of the Haymarket building (B3) and the off-site Franciscan House (23 through 27 Washington Street).

B. Phase II Area

Three buildings (B6 through B8) and two parking areas (P2 and P3) were visited, see Figure 2. The House of Huriwitz (B6) and Sallinger building (B7), except the basement, have been recently vacated and are in good condition. The Paramount Theatre (B8) has been vacant for a longer period of time yet well secured and therefore is also in good condition. The House of Huriwitz and the Sallinger building were heated by steam. No fuel oil tanks were encountered in these buildings though the basement of the Paramount Theatre could not be investigated because of continual flooding. The area outlined as BB2 on Figure 2, also could not be visited, because this was a part of the Paramount Theatre basement. The concrete basement floor in the Sallinger building was cracked and in comparatively poor

condition. The floor in the room which appears to have been used for storage of photographic chemicals was "tacky". A four to six in. diameter pipe was observed in the floor of this room. The depth to which the pipe extended to and its function could not be determined, however no unusual liquids, solids, or odors were detected. The Mason Place Courtyard (C1) was not accessible, although a well vegetated and maintained courtyard was observed through a fence. The parking areas (P1 and P3) were paved with asphalt and exhibited minor oil stains from parked cars.

## 2-04. MUNICIPAL CONTACTS AND REGULATORY FILE REVIEW

The Massachusetts Department of Environmental Protection (DEP) files and the "List of Confirmed Disposal Sites and Locations to be Investigated" were reviewed to locate available records relative to releases or threats of releases of oil or hazardous materials at the subject site or in the immediate vicinity (18,19). According to these files as well as recent communication with the Boston Department of Health and Hospitals, and Fire Department, no incidents involving releases of oil or hazardous material have occurred at the subject site (18,19,20,21). However, DEP files indicate that a release of 15 to 18 gallons of No. 2 fuel oil occurred at the rear of 151 Tremont Street, approximately 250 ft. north of the P3 parcel, on 24 June 1982, see Figure 2 (18). Such a small release is unlikely to have impacted the site.

A recent review of the City of Boston Fire Department records, by the fire department, did not reveal any permits for the fuel oil tanks or chemicals to be stored on site (21). However, a review of Boston Fire Department records during a previous 1986 evaluation in the area indicated that several tanks were licensed for the site, as discussed previously in Section 2-02. "Site History and Usage". The locations of present and past tanks have been noted on Figure 2. Fire Department records reviewed in 1986 also indicated that an oil spill or leak occurred at 607 Washington Street on 2 July 1982, where a 2500 gallon fuel oil tank was reported to be present (15). Authorities have no record of exactly what spilled or what clean-up measures, if any, were taken in connection with the spill or leak (15). A recent review of the records by the fire department did not reveal information pertaining to this spill (21).

## III. SUBSURFACE EXPLORATIONS

### 3-01. TEST PITS

Eight exterior test pits were excavated at the site from 17 July to 10 August 1989 by Jeremiah Sullivan and Sons, of Everett, Massachusetts. The test pits were excavated primarily for the geotechnical assessment so that building footings could be examined, however they were also observed for the presence of oil and hazardous materials. The test pits were monitored by H&A personnel and were located using existing site features, as shown on Figure 3. Test pit sketches and logs, prepared by H&A, are included in Appendix B. The eight test pits, designated TP1, TP1A, TP1C, TP2, TP3, TP4, TP8, and TP9, ranged in depth from 2.0 to 14.1 ft.

### 3-02. TEST BORINGS

Thirty-six test borings were completed at the site from 11 May to 6 September 1989 by Guild Drilling Co., Inc., of East Providence, Rhode Island. The test borings were conducted for geotechnical design purposes as well as to assist in evaluating the possible presence of oil or hazardous material beneath the site. CCE series borings were specifically conducted and located for environmental purposes, whereas CC series borings were specifically conducted and located for geotechnical purposes. The test borings were monitored by H&A personnel and were located using existing site features, as shown on Figure 3.

Fifteen CCE series borings were completed from 30 May to 10 August 1989. CCE series boring logs, prepared by the contractor, are included in Appendix C. Depths of explorations for the CCE series borings ranged from 19.5 to 45 ft. Obstructions were encountered at four locations, resulting in the movement of CCE1, CCE7, CCE12, and CCE12A, see Figure 3. Test boring locations were determined by spatial coverage of the site, past and present site usage, and observations made in the field during the exploration program. Test borings CCE1, CCE5, and CCE7 were located in the vicinity of present fuel oil storage tanks. CCE11 was located in the vicinity of former newspaper printing activities which took place on the adjacent parcel. CCE13 was located in the basement of the building where former photographic processing activities took place. The basement floor of this building was in poor condition, and a pipe in the floor, whose function could not be determined, was also present in the basement room where photographic chemicals were believed to have been stored. CCE3 was located in the vicinity of CC114 due to the contaminated soils encountered.

Twenty-one CC series borings were completed from 11 May to 6 September 1989. CC series included seventeen "100 sequence" borings, drilled on the Phase I area of the site, and four "200 sequence" borings, drilled on the Phase II area of the site, see Figure 3. CC series boring logs, prepared by the contractor, are included in in Appendix D. Depths ranged from 81 to 171 ft.

## 3-03. GROUNDWATER OBSERVATION WELLS

A total of thirty-two groundwater observation wells were installed in completed boreholes at the site. Wells were installed in CCE series borings and in seventeen of the twenty-one CC series borings. Borings in which observation wells were installed are designated "OW" on Figure 3. Each observation well consisted of a length of 2.0 in. diameter machine slotted PVC well screen attached to a length of solid PVC riser pipe. Generally, riser lengths were 20 ft. in length with 20 ft. of well screen. The well screen extended above the water table to permit assessment of the possible presence of phase-separated liquid hydrocarbon floating on the surface of the groundwater. Groundwater observation well installation and monitoring reports for both the CCE and CC series borings are included in Appendix E.

## 4-01. SITE GEOLOGY AND SOIL CONDITIONS

The recently completed explorations program revealed the presence of four major geologic units listed below in order of their deposition:

A. Bedrock

B. Glacial Deposits

C. Marine Deposits

D. Miscellaneous Fill

Due to the complexity of the deposition process, individual strata thicknesses may vary across the site; some may contain substrata, and some may be absent at a given location. The geologic units are described below in order of their deposition.

### A. Bedrock

The bedrock formation underlying the site is known as the Cambridge Argillite, a member of the Boston Bay Group. The argillite is described as very soft to medium hard, slightly to completely weathered, gray, aphanitic argillite, occasionally thinly interbedded sandstone and conglomerate, occasional areas of fractured and appreciated rock with diabase dike material. Depth to the surface of the bedrock ranged from 85.5 to 134 ft. from ground surface based on H&A borings.

### B. Glacial Deposits

Overlying the bedrock surface, a soil sequence of glacial origin was encountered. Two major soil units make up the entire sequence of glacial deposits:

- Glacio-marine

  The glacio-marine deposit is described as a hard, gray clayey silt or sandy silt to very dense (occasionally dense), gray silty fine sand, some to trace clay, trace to little coarse to medium sand, trace to little coarse to fine gravel, little to some fine sand, with cobbles.

o Glacial Till

The glacial till, which underlies the glacio-marine deposit, is described as a very dense, gray silty fine sand to fine sandy silt (occasionally hard, gray silt to clayey silt), trace to little coarse to medium sand, trace to little coarse to fine gravel, trace to little clay, little to trace silt, with cobbles.

Glacial deposits, where penetrated, ranged in thickness from 19 to 45 ft (Tables I, II). No visible evidence of contamination was observed in this soil sequence.

C. Marine Deposits

This deposit consists of complex interlayered strata of marine clay, sand, and silt.

o Marine Clay

The clay is often referred to as the Boston Blue Clay and is described as very stiff (occasionally hard, occasionally very soft to soft), gray to yellowish brown silty clay with frequent to occasional fine sand and silt partings and layers.

o Marine Sand

The marine sand occurs throughout the marine deposit stratum as continuous and discontinuous layers. The marine sand is described as very dense to medium base, occasionally loose, brown-gray medium sand to silty fine sand with traces of coarse to medium sand and trace to little silt, occasionally with silt laminae and layers of silt, silty clay or clayey silt.

Marine deposits, where penetrated, ranged in thickness from 41 to 76 ft. (Tables I, II). Petroleum staining and petroleum odors were detected in the marine deposits, primarily in the marine sand, in the following borings: CCE3, 20 to 26 ft., slight oil staining; CC107, 29 to 32 ft., slight oil staining and slight petroleum odor; and CC114, 15 to 16 ft., and 25 to 26 ft., oil staining and petroleum odor; see Figure 3.

D. Fill

Area development since Colonial times has resulted in a layer of miscellaneous fill overlying the natural deposits. The fill is described as medium dense to very dense (occasionally loose

to very loose), brown coarse to fine sand to sandy gravel with varying amounts of silt and gravel, frequently including concrete, brick, granite blocks, ash, cinders, wood, and other miscellaneous building rubble. Fill thicknesses ranged from 8.5 to 34 ft. (Tables I, II).

Test borings CCE12B and CC115 encountered former foundation structures at depths below the fill. In CCE12B, a granite block was drilled through from 13 to 18 ft., below which a brick wall was drilled through to a depth of 34 ft. In CC115, wood fragments were encountered at a depth of 24 to 26 ft., which may have originated from a nearby wood pile. These findings indicate that, though fill is generally only present to an approximate depth of 14 ft., other man-made obstructions may be present at depths below the fill.

Petroleum staining and odors were detected in the fill at the following locations: CCE1, 9.5 to 11.0 ft., oil staining; CCE3, 13 to 15 ft., petroleum odor; CC102, 3 to 5 ft., slight petroleum odor; CC114, 12 to 15 ft., oil staining and a strong petroleum odor.

A pine pitch odor was detected from CCE6 in a sample from 10 to 12 ft.

Three pipes were observed in TP1A. One which was cracked emitted a petroleum odor. No petroleum liquid was observed in the cracked pipe.

## 4-02. GROUNDWATER LEVELS

Groundwater elevations were recorded from observation wells, as indicated in Appendix E. Groundwater elevations taken from accessible wells on 6 September 1989 ranged from El. - 0.5 to El. 8.5. The average depth to groundwater on this date was 30.6 ft. below the ground surface. The principal water bearing material beneath the site is the marine deposit, which includes substantial clay horizons, separating the marine sands and may act as an impermeable zone creating distinct groundwater levels. The wide range and sporadic groundwater elevations which cross the site indicate that an "artificial" groundwater regime exists at the site and in the immediate vicinity. It is our opinion that this irregular groundwater regime is probably related to leakage into sewers, utilities, and the MBTA subway lines, which border the site to the east on Washington street, and to the west on Tremont Street.

## V. SAMPLE SCREENING AND CHEMICAL ANALYSIS RESULTS

### 5-01. GENERAL

The field sampling program consisted of the collection of soil samples from CC series borings continuously through the fill and at five ft. intervals to the depth of the groundwater table; from CCE series continuously to the bottom of the exploration; and from test pits when contamination was observed or suspected due to the location of the excavation (i.e. within close proximity to a fuel oil tank or known release). Groundwater samples were collected from selected observation wells.

### 5-02. LABORATORY HNU AND GC SCREENING

Soil samples obtained for HNU screening during the course of the test pit and boring program were placed in screw-top glass jars, covered with aluminum foil, and tightly capped. The headspace above the the soil sample in each jar was later analyzed in the H&A laboratory using an HNU Systems, Inc., PI 101 photoionization analyzer (HNU). Using ultraviolet light, this instrument, which is calibrated to a standard gas, is able to ionize trace gases such that the positive ions created are attracted to an electrode having an applied negative potential. The current measured at this electrode is proportional to the trace gas concentration. The instrument readout provides a general indication of the presence of volatile organic compounds (VOCs) in parts per million (ppm). Some inorganic gases may also be detected.

Additional soil samples collected from the CCE series borings were placed in laboratory vials for gas chromatograph (GC) screening. The headspace air was later analyzed in the H&A laboratory using a calibrated Photovac 10S50 portable gas chromatograph equipped with a capillary column. Headspace air samples from prepared standards of known VOCs were used to calibrate the GC. Headspace air was withdrawn from the selected soil sample vials via a gas-tight syringe and subsequently injected into the GC. The retention times and areas for the peaks produced by the sample headspace injections were then quantified and total concentrations calculated, based on the retention times and peak areas of the standards.

Results of the HNU and GC screening of the soil samples from the test pits and test borings are included in Table III.

A. HNU Screening Results

Laboratory background interference readings ranged from 1.0 to 2.0 ppm. The results, as shown in Table III, have not been corrected for background interference since it is so low. The samples tested from five out of twenty-one CC series borings (13 out of 230 samples) exhibited HNU readings greater than 10 ppm. Readings between 11.6 and 22 ppm were detected in seven samples from borings CC107, CC108, CC115 and CC204. Generally, the elevated readings were only encountered in the fill. Test boring CC204, in parking area P3, accounted for the majority of these readings, which ranged from 12.6 to 22.0 ppm (four samples). Higher HNU values, ranging from 36 to 146 ppm, were detected in six samples from test boring CC114 in parking area P5. The elevated samples were collected from 8 to 26 ft. below ground surface. Some of these soil samples were petroleum stained and exhibited a petroleum odor.

The samples tested from nine out of eleven CCE series borings (37 out of 194 samples) exhibited HNU readings greater than 10 ppm. Values for samples from seven of the nine borings ranged from 11 to 48 ppm (25 samples). Readings between 11 and 48 ppm were detected in 25 samples for borings CCE1, CCE4, CCE5, CCE7A, CCE9, CCE12, and CCE13. Generally, the elevated reading were only encountered in the fill. Test boring CCE6, in parking area P4, exhibited similar low readings (four samples) except for one sample which was 224.0 ppm. There was no visible evidence of contamination in this sample, however, the sample did contain wood fragments. Test boring CCE3, in parking area P5, exhibited higher HNU values, 17.8 to 72.0 ppm (seven samples), from samples collected from 13 to 28 feet. Some of these soil samples were petroleum stained and exhibited a petroleum odor.

One out of six test pits (one out of eight samples) exhibited HNU readings greater than 10 ppm. This fill sample, 68.0 ppm, was collected from the bottom of the TP4, excavated in parking area P4.

B. GC Screening Results

Only samples from CCE series borings were GC screened. The results, as shown in Table III, differ significantly from the HNU readings in concentrations. This is to be expected because the HNU measures both volatile organic and some inorganic compounds; whereas the GC measures only volatile organic compounds. Therefore, only a comparison of trends in the increase and decrease of readings can be made between the two instruments.

GC screening values range from "Not Detected" (ND) to 36.51 ppm. Generally, though, values are less than 0.010 ppm (161 out of 188 samples), which is in agreement with the overall low HNU readings observed in the CC and CCE series borings and test pits. The elevated GC readings observed in CCE3, up to 1.7 ppm, and CCE6, up to 36.51 ppm, correlate with the HNU screening results.

## 5-03. CHEMICAL ANALYSIS OF SOIL SAMPLES

Twenty-two soil samples were collected and submitted to Enseco of Cambridge, Massachusetts, an EPA and DEP-certified analytical laboratory, for chemical analysis. Samples were analyzed for several parameters including: US EPA priority pollutant volatile organic compounds (EPA Method 8040) and semi-volatile organic compounds (base neutral compounds), total petroleum hydrocarbons (TPH) by infrared (IR) method; petroleum identification and total quantification by gas chromatograph-flame ionization detector(GC-FID), priority pollutant metals, and pesticides/PCBs. One soil sample was analyzed for pH. Five soil samples were also collected and submitted to Hygeia, Inc., an accredited asbestos laboratory in Waltham, Massachusetts, for asbestos analysis. The chemical analysis results are summarized in Table IV. Laboratory chemical analysis reports and chain-of-custody forms are included in Appendix F (Volume II).

### A. Volatile Organic Compounds (VOCs)

Soil samples were submitted for VOC (EPA Method 8040) analysis based on the results from the HNU and GC screening. As a result, five samples, CCE3-S11, CCE6-S5, CCE6-S9, CCE7A-S16, CCE13-S11 were submitted. VOCs were not detected in the five samples tested.

### B. Semi-volatile Organic Compounds

A soil sample, CCE13-S1, was collected near the Sallinger Building (B7) and analyzed for semi-volatile organic compounds because photographic chemicals, which often contain phenols, were reportedly used and stored in this building. The results indicate that low levels of polynuclear aromatic hydrocarbons (PAHs), a type of semi-volatile organic compound, were present and not phenols. Low levels of PAHs are commonly detected in urban fill.

### C. Total Petroleum Hydrocarbons (TPH) by IR

Nineteen soil samples were submitted for TPH analysis by IR. These soil samples were selected based on field observations,

laboratory screening, site historical information, and spacial coverage of the site. Petroleum hydrocarbons were present in ten samples, with total concentrations ranging from 80 to 990 ppm.

D. Petroleum Identification and Quantification by GC-FID

Five soil samples were submitted for petroleum identification and quantification analysis (fingerprinting). These soil samples were selected based on field observations, laboratory screening, and site historical information. Samples, CCE3-S11, CC114-S7, and CC114-S9A, were identified as No. 2 fuel oil, which was heavily weathered, with total petroleum hydrocarbon values ranging from 96 to 2,900 ppm. Sample CCE6-S5 was identified as containing lubricating oil and turpentine, with a total petroleum hydrocarbon value of 69 ppm. Sample CCE1A-S12 could not be identified because so little petroleum product was present, 7 ppm.

E. Metals

Three soil samples were submitted for priority pollutant metals analysis. These soil samples were selected based on site historical information. Sample CCE1A-S4 was collected at a location near a former printing shop and bicycle repair facility, sample CCE11-S3 was collected at a location near a former printing press facility, and CCE13-S1 was collected below the basement floor of a room used to store photographic chemicals. Generally, metals were detected at low concentrations within background ranges reported for Eastern United States soil or locally in native soils from the Third Harbor Tunnel Project. Lead concentrations in one sample, however, fell outside these ranges.

F. Pesticides/PCBs

Four soil samples were submitted for pesticide/PCBs analysis. These soil samples were selected to provide spacial coverage of the site. Pesticides were detected only at low concentrations in CCE1A-S4, no PCBs were detected. The type of pesticides detected and their concentrations included: 4,4'-DDD, 0.009 ppm; 4,4'-DDT, 0.091 ppm; 4,4-DDE, 0.030 ppm.

G. Asbestos

Samples CCE5-S1, CCE6-S4, CCE11-S4, and CCE12-S2, were soil samples collected from the test borings. No asbestos was

detected in these four samples. Sample TP8-S1 was a sample of white material, which was collected from the south wall of TP8, between a marble face and brick wall. This sample contained 30% asbestos.

H. pH

Sample CCE11-S3 was analyzed for pH because a printing press facility was located nearby at one time and acidic compounds may have been used in the process. The pH for sample CCE11-S3 was measured at 8.07 which indicates that the soil is slightly alkaline, not acidic.

## 5-04. CHEMICAL ANALYSIS OF GROUNDWATER SAMPLES

Seventeen groundwater samples were collected from observation wells installed in both the CC series and CCE series borings. Groundwater samples were collected from observation wells based on field observations made during the test boring program, laboratory screening results, up and down gradient observation well locations, and spacial coverage of the site. Samples were submitted to Enseco for several parameters including US EPA priority pollutant volatile organic compounds, total petroleum hydrocarbons (TPH) by infrared (IR) method, and priority pollutant metals.

Prior to sampling, the depth of water in the monitoring well was measured to calculate the volume of standing water. If water was introduced to the boring as it was drilled, which was the case with the CC series and several of the CCE series borings, then eight to ten well volumes of water were removed prior to sampling. If no water was introduced, which was generally the case with the CCE series borings, then three well volumes were removed. As a result, the amount of water to be removed determined the method of sampling the observation well.

In those instances in which only three well volumes were removed a decontaminated stainless steel bailer and length of unused nylon rope was used to collect the groundwater sample, which was placed in laboratory prepared bottles. When eight to ten well volumes were required to be removed a 5/8 in., high density polyethylene (HDPE) tubing, with a 3 in. foot valve was often utilized. A stainless steel beaker was used to capture the groundwater from the tubing and place it in laboratory prepared bottles. New tubing and foot valves were used for each well, therefore they did not require decontamination between sampling points. The bailer and stainless steal beaker were decontaminated between each well sampled using soapy water, then rinsed successively with tap water, distilled

water, methanol, and again with distilled water. The first well volume removed was observed for phase-separated liquid hydrocarbon floating on the surface of the groundwater. Samples were placed in a cooler with ice and subsequently delivered to Enseco the day they were collected.

The groundwater sample test results are summarized in Table VI. Laboratory chemical analysis reports and chain-of-custody forms are included in Appendix G (Volume II).

No measurable quantity of phase-separated liquid hydrocarbon was detected. However, a slight blue sheen was observed on the sample from CCE3-OW, and a rainbow sheen on the sample from CC203-OW.

A. Volatile Organic Compounds (VOCs)

Seventeen groundwater samples were submitted for analysis for VOCs. Volatile organic compounds were present in two samples: CCE1A-OW, in parking area P1, 0.01 ppm ethyl benzene and 0.005 ppm xylene; and CCE12B-OW, in parking area P3, 0.035 ppm acetone (Table VI).

B. Priority Pollutant Metals

Two samples were submitted for analysis for dissolved metals. Sample CCE13-OW was collected and analyzed for metals because of the photographic chemicals stored in this area. However, metals were not detected above reporting limits in CCE13-OW. Sample CCE1A-OW was collected and analyzed because of its proximity to a former printing shop and bicycle repair facility. Low levels of metals were detected in this sample: 0.01 ppm chromium, 0.01 ppm copper, 0.009 ppm lead, and 0.10 ppm zinc (Table VI).

C. Total Petroleum Hydrocarbons by IR (TPHIR)

Seventeen groundwater samples were submitted for TPH analysis by IR. Petroleum hydrocarbons were detected in five samples, CCE3-OW, 2.0 ppm; CCE13-OW, 3.7 ppm; CC114-OW, 18 ppm; CC115-OW, 3.7 ppm; and CC203-OW, 17 ppm (Table VI).

## 5-05. QUALITY ASSURANCE/QUALITY CONTROL

A Quality Assurance/Quality Control (QA/QC) program was conducted during the collection of groundwater sample. The QA/QC program consisted of submitting a trip blank, rinsate blank, and duplicate sample for analysis at the same time the

other groundwater samples were analyzed, see Table VI. The purpose of the trip blank was to assess whether the samples were cross-contaminated during the time between sample collection and sample analysis. The purpose of the rinsate blank was to evaluate whether the sample collection device was adequately decontaminated between samples. The purpose of the duplicate is to submit a portion of a sample which will be analyzed under a different identity to evaluate the consistency of the laboratory. The trip blank and rinsate blank were analyzed for volatile organic compounds. The duplicate was analyzed for the same parameters as the parent sample. The results of the chemical analyses are provided in Table VI. The laboratory data reports and chain-of-custody forms are included in Appendix G.

The trip blank, CCE20-OW, and rinsate blank, CCE29-OW, exhibited no volatile organic compounds. The duplicate, CC133-OW, exhibited the same results for the parameters tested as the parent sample, CC103-OW.

# VI. DISCUSSION

## 6-01. GENERAL

The available information obtained for this site evaluation has been used to assess the extent and nature of contamination that may be present on the site. An area of contamination is initially evaluated by field observations and laboratory screening results. The area is further assessed using the analytical chemical results which also provide the concentration and identification of the specific contaminant encountered.

## 6-02. HYDROCARBON CONSTITUENTS IN SOIL

A localized area of petroleum contaminated soils and groundwater has been encountered in the southeast corner of the Phase I area of the site, in parking area P5. No tanks were identified in this area and the source of the contamination is unknown. Petroleum staining or odors were often observed during the explorations in the area of CC114, CCE3, and TP4, see Figure 3. A slight blue sheen was observed on the groundwater collected CCE3-OW. The HNU and GC screening results of samples collected from this area were elevated, generally the highest for the Phase I and Phase II areas of the site. The screening results also indicate that the contamination ranges from a depth of approximately 8 ft., starting in the fill, to 28 ft., into the natural soils below the fill, see Table III. The chemical result of soil samples identify the petroleum contaminant to be weathered No. 2 fuel oil, ranging in total petroleum hydrocarbon (TPH) concentration, as determined by IR analysis, from "ND" to 990 ppm, and from 96 to 2,900 ppm by GC-FID, see Table IV. For comparison purposes, the Department of Environmental Protection (DEP) allows virgin petroleum contaminated soils up to 300 ppm to be reused on remediation sites in areas of low environmental impact sites such as this (22). Volatile organic compounds and Pesticides/PCBs were not detected in the one soil sample analyzed for these parameters from this area.

Another localized area of contamination in the Phase I area of the site is located in parking area P4 and delineated by HNU and GC screening results from CC108, CCE5, and CCE6. This area, however, did not appear visibly contaminated. The screening results were comparatively lower than those for the above mentioned area. The elevated readings were also primarily confined to the fill. One sample, which contained wood fragments that had a pine pitch odor, exhibited the highest HNU and GC results for the site, see Table III.

Chemical analysis of soil samples from this area did not detect volatile organic compounds and only low levels of petroleum hydrocarbons (up to 320 ppm), see Table IV. The sample which also exhibited the high HNU and GC values was identified for petroleum hydrocarbons indicating that lubricating oil and turpentine were present. The groundwater sampled in this area did not appear visibly contaminated. The chemical results confirmed these observations. No volatile organic compounds and no petroleum hydrocarbons were detected in the groundwater in this area.

The two areas described above are localized areas of contamination. Generally, except for localized areas, the soils across the site, the Phase I and II areas, do not appear visibly contaminated and exhibit low HNU and GC screening results. The chemical analysis indicates that where sampled, volatile organic compounds were not detected, and semi-volatile organic compounds were present in low concentrations in the one sample analyzed. Petroleum hydrocarbons were detected at low concentrations, less than 300 ppm, or not at all, in the majority of the samples. Sample CCE9-S3 in parking area P2, sample CCE3-S10 and CC114-S9A in parking area P5, did exhibit somewhat elevated concentrations of TPH at 850, 950 and 990 ppm, respectively.

## 6-03. OTHER CONSTITUENTS IN SOIL

Pesticides were detected in one location at low concentrations. PCBs were not detected. Asbestos was not encountered in the soil samples. However, a sample collected between a brick wall and the marble facing in test pit TP8, in parking lot P3, was determined to contain 30 percent asbestos.

Metals were detected in each of the three soil samples analyzed for total metals (CCE1A-S4, CCE11-S3, CCE13-S1). The results were generally within the common concentration ranges detected in natural soils within both the Eastern United States and/or the Third Harbor Tunnel Project in Boston, see Table V (23,24).

Arsenic concentrations ranged from 4.1 to 13 ppm, which is within the range for native soils in the Third Harbor Tunnel Project (4.15 to 94.4 ppm) but outside the range for naturally occurring soils in the Eastern United States (0.1 to 7.3 ppm) (23,24). Whereas copper and mercury, which ranged in concentration from 26 to 134 ppm and "not detected" (ND) to 2.4 ppm, respectively, were outside the range for native soils in the Third Harbor Tunnel Project (8.4 to 61.8 and ND to 0.65,

respectively) but within the range for soils in the Eastern United States (<1 to 700 and 0.01 to 3.4, respectively) (23,24). Lead concentrations for samples CCE11-S3 and CCE13-S1 (54 ppm and 250 ppm, respectively) were also within the ranges normally found in the Eastern United States (<10 to 300 ppm) but outside the range for the Third Harbor Tunnel Project (4.0 to 94.7 ppm) (23,24).

Sample CCE1A-S4 exhibited a lead concentration of 840 ppm which is outside the range for native soils from both the Third Harbor Tunnel Project and for the Eastern United States. However, approximately 75 percent of soil samples tested for lead by Suffolk County in Cambridge from 1977 to 1985 ranged between 500 and 3000 ppm total lead content (25). Sample CCE1A-S4 falls well within this range.

## 6-04. CONSTITUENTS IN GROUNDWATER

Generally, the groundwater across the site, the Phase I and II areas, does not appear visibly contaminated. The chemical results from groundwater samples have TPH values of 2.0 (CCE3-OW) and 18.0 (CC114-OW) ppm, see Table VI. The sample collected from CC114-OW is greater than the maximum allowable concentration of oil and grease, 15 ppm, that can be discharged to a drinking water aquifer under the current Massachusetts regulations (26).

Volatile organics were not detected in the groundwater in this area. Two exceptions are: CC203-OW in parking area P3 appeared visibly contaminated, a rainbow sheen was observed during the sampling. Total petroleum hydrocarbons were detected at 17 ppm for this sample, which is above the maximum allowable concentration of oil and grease (15 ppm) that can be discharged to a drinking water aquifer under current Massachusetts regulations (26). Generally, total petroleum hydrocarbons were detected at concentrations less than 15 ppm. Volatile organic compounds were not detected in CC203-OW. Volatile organic compounds were detected at two locations, CCE1A-OW (P1) and CCE12B-OW (P3), but at concentrations less than the drinking water guidelines (27,28).

Metals were detected in one of two groundwater samples analyzed from the site. The concentrations detected (chromium, 0.01 ppm; copper, 0.01 ppm; lead, 0.009 ppm, and zinc, 0.01 ppm) were below the drinking water guidelines (chromium, 0.1 ppm; copper, 1.3 ppm; lead, 0.05; and zinc 5 ppm) (28,29).

## VII. POTENTIAL IMPACTS ON PROPOSED CONSTRUCTION

### 7-01. GENERAL

Excavation for construction of the below-grade parking levels will remove the fill material and a portion of the native soils to a depth of approximately 60 ft. Temporary dewatering will be required to maintain groundwater levels below the excavated level and permit construction in-the-dry. Potential issues exist regarding disposal of the excavated soil and discharge of the pumped groundwater depending on the extent and concentration of contaminates encountered on the site during construction. These issues are discussed below.

### 7-02. DISPOSAL OF SOIL

Contamination encountered in the soil samples consists primarily of hydrocarbon constituents. The areas of hydrocarbon contamination are anticipated to be localized and for the most part confined to the fill stratum. Given the level of contamination encountered at the site, it is likely that some soil will require disposal in a secure lined landfill either in-state or out-of-state.

Currently, the Department of Environmental Protection, DEP, has no set policy on disposal of urban fill or handling of localized hydrocarbon contamination. At a minimum, we anticipate that the DEP may require that they be informed as to the locations of the proposed disposal sites. It is conceivable that the DEP could require additional chemical testing be performed on samples of soil to determine if the proposed disposal sites are appropriate.

The levels and extent of constituents at the site do not warrant remedial action (except tank removal) prior to site development in our opinion, therefore localized contamination can be addressed during excavation. We recommend that Haley & Aldrich personnel be present during excavation to address contamination issues. Depending on the nature of the contamination encountered, the DEP would need to be notified. Also, if elevated levels of contamination are encountered, the DEP may become involved through the Incident Response Group. DEP involvement in the process could impact the construction schedule.

Asbestos was not detected in the bulk soil samples tested and should not impact disposal. However, asbestos material was

identified in TP8 on the walls of the former basement, which has been subsequently filled-in, on the Phase II parcel in parking area P3. This area should be remediated during the asbestos abatement program for the existing buildings.

## 7-03. DISPOSAL OF GROUNDWATER

Low concentrations of constituents were detected in samples of groundwater in both Phase I and Phase II areas. Groundwater collected during temporary dewatering may require treatment prior to discharge. Treatment will include settlement basins to reduce the level of sediments and may also include oil/water separation, a process to reduce the concentration of oil and grease.

During construction, temporary discharge of groundwater into a storm drain will require obtaining an NPDES permit if the storm drain outfalls to an open body of water such as the Fort Point Channel. If the storm system discharges into a combined sewer, then a permit will be required from the MWRA. These permits are in addition to the permit required by the Boston Water and Sewer Commission, and could take up to six months to obtain.

It is currently planned to design the lowest level floor slabs as fully-relieved slabs-on-grade with an underslab drainage system to collect seepage and relieve hydrostatic pressures acting on the slabs. It is our understanding that the Boston Water and Sewer Commission may not allow permanent discharge of groundwater (porewater) into the city storm drain system in an effort to reduce the quantity of water in the system. Accordingly it is planned to discharge water collected in the underdrain system into recharge wells installed at the perimeter of the site. These recharge wells will require a permit from the DEP and will need to be registered as part of the Underground Injection Control (UIC) program.

## 7-04. TANK REMOVAL

Currently, four fuel oil tanks have been located within basement spaces in areas B3, B5, B9 and BB1 (refer to Figure 2). These tanks should be removed by a licensed contractor, prior to demolition of the buildings and basement spaces. The appropriate documentation should be generated and notification should be given to the Boston Fire Department before removal.

## VIII. CONCLUSIONS

An oil and hazardous material site evaluation has been performed, comprising a review of readily-available information on site history, development, and usage. Information regarding the existing surface conditions at the site was obtained from observations made during site visits by Haley & Aldrich, Inc. representatives. Local municipal offices were contacted and a review of DEP files was undertaken. A subsurface exploration program was undertaken in conjunction with geotechnical studies and was supplemented by laboratory screening of soil samples and a limited chemical testing program.

Due to the presence of petroleum contamination in the southeast corner of the site, and several other isolated occurrences, it is our opinion that under a strict statutory interpretation the Massachusetts DEP would likely consider the site to fall under the jurisdiction of Chapter 21E of the Massachusetts General Laws. We suggest you also consult your attorneys for their interpretation of the regulations.

The results of this report and a Preliminary Assessment Form should be submitted to the DEP for classification. The Preliminary Assessment is being submitted as a separate document for your review. It is Haley & Aldrich's opinion that the subject site would be classified as a non priority site by the DEP.

## IX. LIMITATIONS

This report has been prepared for the exclusive use of the F. D. Rich, Company in connection with the Commonwealth Center Project, Boston, Massachusetts.

The conclusions provided by Haley & Aldrich, Inc., are based soley on the scope of work conducted and the sources of information referenced in this report. Any additional information that becomes available concerning this site should be provided to Haley & Aldrich, Inc., so that our conclusions may be reviewed and modified, if necessary.

An evaluation for the presence of asbestos and PCB-containing materials was conducted under a separate agreement between the F.D. Rich company and Hygeia, Inc. and has not been a part of this scope of work.

The work performed by Haley & Aldrich, Inc., is subject to the terms and conditions stated in our revised proposal dated 27 January 1989 to the F. D. Rich Company. This work has been undertaken with generally accepted consulting practices. No other warranty, expressed or implied, is made.

The contents of this report may not be copied, provided, or otherwise communicated, in whole or in part, without the prior written consent of Haley & Aldrich, Inc.

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# Tables

HALEY & ALDRICH, INC.

TABLE I

SUMMARY OF SUBSURFACE EXPLORATIONS
GEOTECHNICAL TEST BORINGS
COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

| BORING NO. | GROUND SURFACE ELEVATION | DEPTH OF BORINGS (FT.) | STRATA THICKNESS (FT.) | | | DEPTH TO TOP OF ROCK (FT.) | DEPTH OF BEDROCK PENETRATION (FT.) | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | | | FILL | MARINE DEPOSITS | GLACIAL DEPOSITS | | | |
| CC101 | 38.60 | 149.3 | 16.0 | 76.0 | 42.0 | 134.0 | 15.3 | OW |
| CC102 | 37.31 | 125.0 | 11.0 | 73.0 | 39.0 | 123.0 | 2.0 | OW/PZ |
| CC103 | 31.93 | 129.1 | 13.0 | 75.0 | 41.1 | 129.1 | - | OW |
| CC104 | 33.73 | 139.0 | 12.5 | 73.0 | 40.5 | 126.0 | 13.0 | -- |
| CC105 | 35.92 | 138.0 | 15.5 | 71.5 | 40.0 | 127.0 | 11.0 | OW/PZ |
| CC106 | 35.77 | 135.0 | 13.0 | 69.0 | 42.0 | 124.0 | 11.0 | OW/PZ |
| CC107 | 32.76 | 164.8 | 17.0 | 66.0 | 41.0 | 124.0 | 40.8 | OW/PZ |
| CC108 | 34.52 | 139.5 | 12.5 | 68.4 | 42.9 | 123.8 | 15.7 | -- |
| CC109 | 33.88 | 161.5 | 12.0 | 65.5 | 35.5 | 113.0 | 48.5 | OW/PZ |
| CC110 | 27.62 | 171.0 | 20.0 | 58.9 | 40.9 | 119.8 | 51.2 | OW/PZ |
| CC111 | 30.26 | 140.5 | 12.5 | 58.3 | 38.5 | 109.3 | 31.2 | OW/PZ |
| CC112 | 29.58 | 132.2 | 15.0 | 60.0 | 39.7 | 114.7 | 17.5 | -- |
| CC113 | 31.37 | 116.0 | 11.5 | 56.0 | 28.5 | 96.0 | 20.0 | OW |
| CC114 | 25.51 | 169.0 | 15.0 | 58.0 | 45.0 | 118.0 | 51.0 | OW |
| CC115 | 26.36 | 137.0 | 18.5 | 52.0 | 38.5 | 109.0 | 28.0 | OW/PZ |
| CC116 | 29.08 | 124.7 | 9.5 | 58.5 | 36.0 | 104.0 | 20.7 | PZ |
| CC117 | 29.20 | 109.5 | 8.5 | 60.5 | 24.0 | 93.0 | 16.5 | OW/PZ |
| CC201 | 34.57 | 159.0 | 16.0 | 59.0 | 19.0 | 94.0 | 65.0 | -- |
| CC202 | 29.31 | 137.5 | 11.0 | 47.0 | 29.5 | 87.5 | 50.0 | OW |
| CC203 | 31.29 | 145.0 | 9.0 | 41.0 | 35.5 | 85.5 | 59.5 | OW/PZ |
| CC204 | 36.25 | 81.0 | 20.0 | 43.0 | >18.0 | NE | NE | OW/PZ |

NOTES AND REMARKS:

1. Elevations are referenced to Boston City Base datum.
2. Fill thickness reported for test borings CC107, CC112, CC113, CC115 and CC201 include approximately 17, 13, 9, 10 and 13 feet of basement space, respectively.
3. "NE" indicates not encountered;
4. OW denotes observation well installed in completed borehole.
   PZ denotes piezometer installed in completed borehole.

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TABLE II
SUMMARY OF SUBSURFACE EXPLORATIONS
ENVIRONMENTAL TEST BORINGS

COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

| BORING NO. | GROUND SURFACE ELEVATION | STRATA THICKNESS (FT.) FILL | STRATA THICKNESS (FT.) MARINE DEPOSITS | DEPTH OF BORINGS (FT.) | ELEVATION, FT. TOP OF MARINE DEPOSITS | ELEVATION, FT. OBSERVED GROUNDWATER (5) |
|---|---|---|---|---|---|---|
| CCE-1 | 30.50 | >11.0 | NE | 11.0 | NE | NI |
| CCE-1A | 30.51 | 13.0 | >24.0 | 37.0 | 17.5 | 5.9 |
| CCE-2 | 28.70 | 12.0 | >25.0 | 37.0 | 16.7 | 0.5 |
| CCE-3 | 26.08 | 15.0 | >21.0 | 36.0 | 11.1 | 6.3 |
| CCE-4 | 33.02 | 14.0 | >28.0 | 42.0 | 19.0 | 3.5 |
| CCE-5 | 34.59 | 12.0 | >33.0 | 45.0 | 22.6 | 0.7 |
| CCE-6 | 34.97 | 13.5 | >31.5 | 45.0 | 21.5 | 0.9 |
| CCE-7 | 37.73 | >4.0 | NE | 4.0 | NE | NI |
| CCE-7A | 37.68 | 16.5 | >25.5 | 42.0 | 21.2 | 7.2 |
| CCE-9 | 32.14 | 10.5 | >31.0 | 41.5 | 21.6 | 0.4 |
| CCE-11 | 33.13 | 12.0 | >30.0 | 42.0 | 21.1 | 1.9 |
| CCE-12 | 33.98 | >26.0 (2) | NE | 26.0 | NE | NI |
| CCE-12A | 33.98 | >19.5 | NE | 19.5 | NE | NI |
| CCE-12B | 33.58 | 34.0 (2) | >5.0 | 39.0 | -0.4 | 8.5 |
| CCE-13 | 31.66 | 23.5 | >15.5 | 39.0 | 8.2 | -1.3 |

NOTES:

1. ELEVATIONS ARE REFERENCED TO BOSTON CITY BASE DATUM

2. FILL THICKNESS REPORTED FOR TEST BORINGS CCE-12 AND CCE-12B INCLUDE APPROXIMATELY 8 FT. AND 16 FT. OF BRICK WALL, RESPECTIVELY.

3. NO ENVIRONMENTAL TEST BORINGS FULLY PENETRATED THE MARINE DEPOSITS.

4. "NE" INDICATES NOT ENCOUNTERED
"NI" INDICATES NO OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE.

5. GROUNDWATER ELEVATION REFER TO AVERAGE ELEVATIONS FROM OBSERVATION WELL READINGS TAKEN SINCE THE DATE OF INSTALLATION OF THE WELL UNTIL THE CLOSING DATE OF THIS REPORT. REFER TO APPENDIX E FOR GROUNDWATER OBSERVATION WELL INSTALLATION AND MONITORING REPORTS.

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TABLE III

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CC101 | S1 | 0.0- 2.0 | Fill | 3.4 | 2.0 | NA[4] |
| | S2 | 2.0- 4.0 | Fill | 5.8 | 2.0 | NA |
| | S3 | 4.0- 6.0 | Fill | 6.8 | 2.0 | NA |
| | S4 | 6.0- 8.0 | Fill | 4.0 | 2.0 | NA |
| | S5 | 8.0-10.0 | Fill | 4.6 | 2.0 | NA |
| | S6 | 10.0-10.5 | Fill | 7.4 | 2.0 | NA |
| | S7 | 12.0-14.0 | Sand | 3.0 | 2.0 | NA |
| | S8 | 14.0-16.0 | Sand | 2.8 | 2.0 | NA |
| | S9 | 16.0-18.0 | Sand | 2.8 | 2.0 | NA |
| | S10 | 19.0-21.0 | Sand | 2.8 | 2.0 | NA |
| | S11 | 24.0-26.0 | Sand | 2.4 | 2.0 | NA |
| | S12 | 29.0-31.0 | Sand | 2.6 | 2.0 | NA |
| | S13 | 34.0-36.0 | Sand | 3.4 | 2.0 | NA |
| CC102 | S1 | 1.0- 2.5 | Fill | 2.0 | 1.6 | NA |
| | S1A | 2.5- 3.0 | Fill | 1.8 | 1.6 | NA |
| | S2 | 3.0- 5.0 | Fill | 6.4 | 1.6 | NA |
| | S3 | 5.0- 7.0 | Fill | 2.0 | 1.6 | NA |
| | S4 | 7.0- 9.0 | Fill | 2.6 | 1.6 | NA |
| | S5 | 9.0-11.0 | Fill | 1.8 | 1.6 | NA |
| | S6 | 11.0-13.0 | Fill | 1.8 | 1.6 | NA |
| | S7 | 13.0-15.0 | Sand | 1.8 | 1.6 | NA |
| | S8 | 19.0-21.0 | Sand | 1.6 | 1.6 | NA |
| | S9 | 24.0-26.0 | Sand | 1.6 | 1.6 | NA |
| | S10 | 29.0-31.0 | Sand | 1.6 | 1.6 | NA |
| | S11 | 34.0-36.0 | Sand | 1.6 | 1.6 | NA |
| CC103 | S1 | 1.0- 3.0 | Fill | 2.0 | 1.2 | NA |
| | S2 | 3.0- 5.0 | Fill | 1.8 | 1.2 | NA |
| | S3 | 5.0- 7.0 | Fill | 2.0 | 1.2 | NA |
| | S4 | 7.0- 9.0 | Fill | 1.8 | 1.2 | NA |
| | S5 | 9.0-11.0 | Fill | 1.8 | 1.2 | NA |
| | S6 | 11.0-13.0 | Sand | 2.2 | 1.6 | NA |
| | S7 | 13.0-15.0 | Clay | 1.8 | 1.6 | NA |
| | S8 | 15.0-17.0 | Clay | 1.8 | 1.6 | NA |
| | S9 | 19.0-21.0 | Clay | 1.8 | 1.6 | NA |
| | S10 | 24.0-26.0 | Clay | 1.8 | 1.6 | NA |
| | S11 | 29.0-30.0 | Clay | 1.8 | 1.6 | NA |
| | S11A | 30.0-31.0 | Sand | 2.0 | 1.6 | NA |
| | S12 | 34.0-36.0 | Sand | 2.0 | 1.6 | NA |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CC104 | S1 | 0.0- 1.0 | Fill | 2.0 | 1.6 | NA |
| | S2 | 2.0- 4.0 | Fill | 2.0 | 1.6 | NA |
| | S3 | 4.0- 4.8 | Fill | 2.0 | 1.6 | NA |
| | S4 | 9.0-10.8 | Fill | 2.0 | 1.6 | NA |
| | S5 | 13.0-15.0 | Sand | 2.0 | 1.6 | NA |
| | S6 | 19.0-21.0 | Clay | 2.0 | 1.6 | NA |
| | S7 | 24.0-26.0 | Sand | 2.0 | 1.6 | NA |
| | S8 | 29.0-31.0 | Sand | 2.0 | 1.6 | NA |
| | S9 | 34.0-36.0 | Sand | 2.0 | 1.6 | NA |
| CC105 | S1 | 0.5- 1.0 | Fill | 3.6 | 1.0 | NA |
| | S2 | 2.0- 4.0 | Fill | 3.0 | 1.0 | NA |
| | S3 | 4.0- 6.0 | Fill | NR[5] | NR | NA |
| | S4 | 6.0- 8.0 | Fill | 2.8 | 1.0 | NA |
| | S5 | 8.0-10.0 | Fill | 2.0 | 1.0 | NA |
| | S6 | 10.0-12.0 | Fill | 2.0 | 1.0 | NA |
| | S7 | 12.0-14.0 | Sand | 1.0 | 1.0 | NA |
| | S8 | 14.0-15.5 | Sand | 1.0 | 1.0 | NA |
| | S8A | 15.5-16.0 | Sand | 1.0 | 1.0 | NA |
| | S9 | 19.0-21.0 | Clay | 1.0 | 1.0 | NA |
| | S10 | 24.0-26.0 | Sand | 1.0 | 1.0 | NA |
| | S11 | 29.0-31.0 | Sand | 1.0 | 1.0 | NA |
| | S12 | 34.0-36.0 | Clay | 1.0 | 1.0 | NA |
| CC106 | S1 | 0.0- 2.0 | Fill | 3.2 | 1.6 | NA |
| | S2 | 2.0- 4.0 | Fill | 2.2 | 1.6 | NA |
| | S3 | 4.0- 5.0 | Fill | NR | NR | NA |
| | S4 | 9.0-11.0 | Fill | 9.6 | 1.6 | NA |
| | S5 | 11.0-13.0 | Fill | 2.4 | 1.6 | NA |
| | S6 | 14.0-16.0 | Clay | 1.8 | 1.6 | NA |
| | S7 | 19.0-21.0 | Clay | 1.8 | 1.6 | NA |
| | S8 | 24.0-26.0 | Sand | 2.0 | 1.6 | NA |
| | S9 | 29.0-31.0 | Sand | 2.0 | 1.6 | NA |
| | S10 | 34.0-35.0 | Clay | 2.0 | 1.6 | NA |
| | S10A | 35.0-36.0 | Clay | 1.8 | 1.6 | NA |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CC107 | S1 | 17.0-19.0 | Clay | 1.6 | 1.0 | NA |
| | S2 | 19.0-21.0 | Clay | 1.6 | 1.0 | NA |
| | S3 | 24.0-26.0 | Clay | 1.6 | 1.0 | NA |
| | S4 | 29.0-31.0 | Sand | 3.4 | 1.0 | NA |
| | S5 | 31.0-32.0 | Sand | 11.6 | 1.0 | NA |
| | S5A | 32.0-33.0 | Clay | 1.8 | 1.0 | NA |
| | S6 | 34.0-35.0 | Clay | 1.2 | 1.0 | NA |
| | S6A | 35.0-36.0 | Clay | 1.6 | 1.0 | NA |
| CC108 | S1 | 0.5- 2.5 | Fill | 5.6 | 2.0 | NA |
| | S2 | 2.5- 4.5 | Fill | 4.0 | 2.0 | NA |
| | S3 | 4.5- 6.5 | Fill | 6.6 | 2.0 | NA |
| | S4 | 6.5- 8.5 | Fill | 20.0 | 2.0 | NA |
| | S5 | 8.5-10.5 | Fill | 5.6 | 2.0 | NA |
| | S6 | 10.5-12.5 | Fill | 2.8 | 1.0 | NA |
| | S7 | 12.5-14.5 | Clay | 2.6 | 1.0 | NA |
| | S8 | 14.5-16.5 | Clay | 2.6 | 1.0 | NA |
| CC109 | S1 | 0.5- 2.0 | Fill | 5.6 | 2.0 | NA |
| | S2 | 2.0- 4.0 | Fill | 7.0 | 2.0 | NA |
| | S3 | 4.0- 6.0 | Fill | 5.8 | 2.0 | NA |
| | S4 | 6.0- 8.0 | Fill | 5.6 | 2.0 | NA |
| | S5 | 8.0-10.0 | Fill | 5.6 | 2.0 | NA |
| | S6 | 10.0-12.0 | Fill | 4.2 | 2.0 | NA |
| | S7 | 12.0-14.0 | Clay | 5.2 | 2.0 | NA |
| | S8 | 14.0-16.0 | Clay | 4.6 | 2.0 | NA |
| | S9 | 16.0-18.0 | Clay | 5.6 | 2.0 | NA |
| | S10 | 19.0-21.0 | Clay | 5.4 | 2.0 | NA |
| | S11 | 24.0-26.0 | Sand | 5.4 | 2.0 | NA |
| | S12 | 29.0-31.0 | Sand | 5.6 | 2.0 | NA |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLO-RATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CC110 | S1 | 1.0- 3.0 | Fill | 7.0 | 1.8 | NA |
| | S2 | 3.0- 5.0 | Fill | 7.0 | 1.8 | NA |
| | S3 | 5.0- 7.0 | Fill | 6.8 | 1.8 | NA |
| | S4 | 7.0- 9.0 | Fill | 6.8 | 1.8 | NA |
| | S5 | 9.0-11.0 | Fill | 6.6 | 1.8 | NA |
| | S6 | 11.0-13.0 | Fill | 6.4 | 1.8 | NA |
| | S7 | 13.0-15.0 | Fill | 6.8 | 1.8 | NA |
| | S8 | 15.0-17.0 | Fill | 6.0 | 1.8 | NA |
| | S9 | 17.0-19.0 | Fill | 6.4 | 1.8 | NA |
| | S10 | 20.0-22.0 | Clay | 6.0 | 1.8 | NA |
| | S11 | 24.0-26.0 | Clay | 4.8 | 1.8 | NA |
| | S12 | 29.0-31.0 | Sand | NA | NA | NA |
| | S13 | 34.0-36.0 | Sand | 6.2 | 1.8 | NA |
| CC111 | S1 | 0.3- 2.0 | Fill | 2.0 | 1.6 | NA |
| | S2 | 2.0- 4.0 | Fill | 7.2 | 1.6 | NA |
| | S3 | 4.0- 6.0 | Fill | 2.0 | 1.6 | NA |
| | S4 | 6.0- 8.0 | Fill | 1.8 | 1.6 | NA |
| | S5 | 8.0-10.0 | Fill | 1.8 | 1.6 | NA |
| | S6 | 10.0-10.3 | Fill | 5.4 | 1.2 | NA |
| | S7 | 12.5-14.5 | Clay | 1.6 | 1.2 | NA |
| | S8 | 14.5-16.5 | Clay | 1.4 | 1.2 | NA |
| | S9 | 19.0-21.0 | Clay | 1.6 | 1.2 | NA |
| | S10 | 24.0-26.0 | Clay | 1.4 | 1.2 | NA |
| | S11 | 29.0-31.0 | Sand | 2.0 | 1.2 | NA |
| | S12 | 34.0-36.0 | Sand | 1.6 | 1.2 | NA |
| CC112 | S1 | 15.0-17.0 | Clay | 4.4 | 1.0 | NA |
| | S2 | 20.0-22.0 | Clay | 3.8 | 1.0 | NA |
| | S3 | 25.0-27.0 | Clay | 7.0 | 1.0 | NA |
| | S4 | 30.0-32.0 | Clay | 5.2 | 1.0 | NA |
| | S5 | 35.0-37.0 | Sand | 5.2 | 1.0 | NA |

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TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CC113 | S1 | 9.5-11.5 | Sand | 2.2 | 1.8 | NA |
| | S2 | 11.5-13.5 | Sand | 2.2 | 1.8 | NA |
| | S3 | 14.0-16.0 | Sand | 2.2 | 1.8 | NA |
| | S4 | 19.0-21.0 | Clay | 2.2 | 1.8 | NA |
| | S5 | 24.0-26.0 | Sand | 2.2 | 1.8 | NA |
| | S6 | 29.0-31.0 | Sand | 2.2 | 1.8 | NA |
| | S7 | 34.0-36.0 | Clay | 2.2 | 1.8 | NA |
| CC114 | S1 | 1.0- 2.5 | Fill | 1.6 | 1.6 | NA |
| | S2 | 2.5- 4.0 | Fill | 1.6 | 1.6 | NA |
| | S3 | 4.0- 6.0 | Fill | 1.6 | 1.6 | NA |
| | S4 | 6.0- 8.0 | Fill | 2.2 | 1.6 | NA |
| | S5 | 8.0- 9.5 | Fill | 36.0 | 1.6 | NA |
| | S6 | 12.0-14.0 | Fill | 96.0 | 1.6 | NA |
| | S7 | 14.0-15.0 | Fill | 138.0 | 1.6 | NA |
| | S7A | 15.0-16.0 | Sand | 146.0 | 1.6 | NA |
| | S8 | 19.0-21.0 | Clay | 9.4 | 1.6 | NA |
| | S9 | 24.0-25.0 | Clay | 104.0 | 1.2 | NA |
| | S9A | 25.0-26.0 | Sand | 112.0 | 1.2 | NA |
| | S10 | 27.0-29.0 | Sand | 3.6 | 1.2 | NA |
| | S11 | 29.0-31.0 | Sand | 2.4 | 1.2 | NA |
| | S12 | 31.0-31.5 | Sand | 1.8 | 1.2 | NA |
| | S12A | 31.5-33.0 | Clay | 2.8 | 1.2 | NA |
| | S13 | 33.0-35.0 | Clay | 4.6 | 1.2 | NA |
| CC115 | S1 | 15.0-15.5 | Fill | 20.0 | 1.2 | NA |
| | S2 | 18.5-20.5 | Fill | NR | NR | NA |
| | S3 | 24.0-26.0 | Clay | 2.8 | 1.2 | NA |
| | S4 | 29.0-31.0 | Sand | 2.6 | 1.2 | NA |
| | S5 | 34.0-36.0 | Clay | 2.6 | 1.2 | NA |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CC116 | S1 | 1.0- 3.0 | Fill | 2.8 | 1.4 | NA |
| | S2 | 3.0- 5.0 | Fill | 2.8 | 1.4 | NA |
| | S3 | 5.0- 7.0 | Fill | 2.8 | 1.4 | NA |
| | S4 | 7.0- 9.0 | Fill | 2.8 | 1.4 | NA |
| | S5 | 9.0- 9.5 | Fill | 3.0 | 1.4 | NA |
| | S5A | 9.5-11.0 | Clay | 3.0 | 1.4 | NA |
| | S6 | 14.0-16.0 | Clay | 1.8 | 1.4 | NA |
| | S7 | 19.0-20.5 | Clay | 1.8 | 1.4 | NA |
| | S7A | 20.5-21.0 | Sand | 1.8 | 1.4 | NA |
| | S8 | 24.0-26.0 | Sand | 1.8 | 1.4 | NA |
| | S9 | 29.0-31.0 | Sand | 2.0 | 1.4 | NA |
| | S10 | 34.0-35.5 | Clay | 2.0 | 1.4 | NA |
| | S10A | 35.5-36.0 | Sand | 2.0 | 1.4 | NA |
| CC117 | S1 | 0.0- 2.0 | Fill | 3.8 | 1.4 | NA |
| | S2 | 2.0- 4.0 | Fill | 2.8 | 1.4 | NA |
| | S3 | 4.0- 6.0 | Fill | 2.4 | 1.4 | NA |
| | S4 | 6.0- 8.0 | Fill | 2.4 | 1.4 | NA |
| | S5 | 8.0-10.0 | Sand | 2.4 | 1.4 | NA |
| | S6 | 10.0-12.0 | Sand | 2.4 | 1.4 | NA |
| | S7 | 12.0-14.0 | Sand | 2.0 | 1.4 | NA |
| | S8 | 14.0-16.0 | Sand | 2.4 | 1.4 | NA |
| | S9 | 19.0-21.0 | Clay | 2.4 | 1.4 | NA |
| | S10 | 24.0-26.0 | Sand | 2.2 | 1.4 | NA |
| | S11 | 29.0-31.0 | Sand | 2.2 | 1.4 | NA |
| | S12 | 34.0-36.0 | Sand | 2.2 | 1.4 | NA |
| CC201 | S1 | 13.0-15.0 | Fill | 5.6 | 1.8 | NA |
| | S2 | 15.0-16.0 | Fill | 5.6 | 1.8 | NA |
| | S2A | 16.0-17.0 | Clay | 5.4 | 1.8 | NA |
| | S3 | 17.0-18.5 | Clay | 6.0 | 1.8 | NA |
| | S3A | 18.5-19.0 | Clay | 7.2 | 1.8 | NA |
| | S4 | 19.5-21.5 | Clay | 7.0 | 1.8 | NA |
| | S5 | 24.5-26.5 | Clay | 6.2 | 1.8 | NA |
| | S6 | 29.5-31.5 | Sand | 7.4 | 1.8 | NA |
| | S7 | 34.5-36.5 | Sand | 5.0 | 1.8 | NA |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CC202 | S1 | 1.0- 2.0 | Fill | 2.4 | 1.2 | NA |
| | S2 | 2.0- 4.0 | Fill | 2.4 | 1.2 | NA |
| | S3 | 4.0- 5.8 | Fill | 2.6 | 1.2 | NA |
| | S4 | 7.0- 9.0 | Fill | 2.6 | 1.2 | NA |
| | S5 | 9.0-11.0 | Fill | 2.4 | 1.2 | NA |
| | S6 | 11.0-12.0 | Sand | 2.4 | 1.2 | NA |
| | S6A | 12.0-13.0 | Clay | 2.2 | 1.2 | NA |
| | S7 | 14.0-16.0 | Clay | 2.4 | 1.2 | NA |
| | S8 | 19.0-21.0 | Clay | 2.2 | 1.2 | NA |
| | S9 | 24.0-26.0 | Clay | 1.8 | 1.0 | NA |
| | S10 | 29.0-31.0 | Clay | 2.0 | 1.0 | NA |
| | S11 | 34.0-35.0 | Clay | 2.0 | 1.0 | NA |
| CC203 | S1 | 1.0- 3.0 | Fill | 3.4 | 1.8 | NA |
| | S2 | 3.0- 5.0 | Fill | 2.6 | 1.8 | NA |
| | S3 | 5.0- 7.0 | Fill | 3.2 | 1.8 | NA |
| | S4 | 7.0- 9.0 | Fill | 2.6 | 1.8 | NA |
| | S5 | 9.0-11.0 | Clay | 2.4 | 1.8 | NA |
| | S6 | 14.0-16.0 | Clay | 2.4 | 1.8 | NA |
| | S7 | 19.0-20.5 | Clay | 2.4 | 1.8 | NA |
| | S7A | 20.5-21.0 | Sand | 2.4 | 1.8 | NA |
| | S8 | 24.0-26.0 | Sand | 2.4 | 1.8 | NA |
| | S9 | 29.0-31.0 | Sand | 2.4 | 1.8 | NA |
| CC204 | S1 | 1.0- 3.0 | Fill | 5.8 | 1.4 | NA |
| | S2 | 3.0- 5.0 | Fill | 22.0 | 1.4 | NA |
| | S3 | 5.0- 7.0 | Fill | 4.6 | 1.4 | NA |
| | S4 | 7.0- 9.0 | Fill | 12.6 | 1.4 | NA |
| | S5 | 9.0-11.0 | Fill | 6.2 | 1.4 | NA |
| | S6 | 11.0-11.5 | Fill | 15.8 | 1.4 | NA |
| | S7 | 14.0-15.0 | Fill | 5.6 | 1.4 | NA |
| | S7A | 15.0-17.0 | Fill | 4.6 | 1.4 | NA |
| | S8 | 17.0-19.0 | Fill | 20.0 | 1.4 | NA |
| | S9 | 19.0-20.0 | Silt | 4.2 | 1.4 | NA |
| | S9A | 20.0-21.0 | Sand | 4.8 | 1.4 | NA |
| | S10 | 21.0-23.0 | Sand | 5.4 | 1.4 | NA |
| | S11 | 23.0-25.0 | Sand | 4.8 | 1.4 | NA |
| | S12 | 25.0-27.0 | Sand | 4.4 | 1.4 | NA |
| | S13 | 27.0-29.0 | Sand | 4.6 | 1.4 | NA |
| | S14 | 29.0-29.5 | Sand | 4.0 | 1.4 | NA |
| | S14A | 29.5-31.0 | Clay | 4.0 | 1.4 | NA |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CCE1 | S1 | 1.0- 3.0 | Fill | 2.4 | 1.6 | 0.001 |
| | S2 | 3.0- 5.0 | Fill | 2.6 | 1.6 | 0.002 |
| | S3 | 5.0- 6.0 | Fill | 15.8 | 1.6 | 0.005 |
| | S4 | 9.5-10.9 | Fill | 16.0 | 1.6 | 0.007 |
| CCE1A | S5 | 13.0-15.0 | Clay | 5.0 | 1.6 | 0.007 |
| | S6 | 15.0-17.0 | Clay | 3.6 | 1.6 | 0.005 |
| | S7 | 17.0-19.0 | Clay | 3.6 | 1.6 | 0.009 |
| | S8 | 19.0-21.0 | Clay | 3.4 | 1.8 | ND |
| | S9 | 21.0-23.0 | Clay | 3.8 | 1.8 | 0.007 |
| | S10 | 23.0-25.0 | Clay | 4.0 | 1.8 | ND |
| | S11 | 25.0-27.0 | Clay | 7.8 | 1.8 | NA |
| | S12 | 27.0-29.0 | Clay | 8.4 | 1.8 | 0.032 |
| | S13 | 29.0-31.0 | Clay | 4.8 | 1.8 | 0.006 |
| | S14 | 31.0-33.0 | Sand | 5.4 | 1.8 | 0.005 |
| | S15 | 35.0-37.0 | Sand | 5.6 | 1.8 | 0.022 |
| CCE2 | S1 | 1.0- 2.5 | Fill | 2.6 | 2.0 | 0.005 |
| | S2 | 5.0- 7.0 | Fill | 8.8 | 2.0 | 0.007 |
| | S3 | 7.0- 9.0 | Fill | 4.2 | 2.0 | 0.006 |
| | S4 | 10.0-12.0 | Fill | 6.2 | 2.0 | 0.003 |
| | S5 | 12.0-14.0 | Clay | 3.8 | 2.0 | TR[6] |
| | S6 | 14.0-16.0 | Clay | 3.6 | 2.0 | TR |
| | S7 | 16.0-18.0 | Clay | 3.2 | 2.0 | ND |
| | S8 | 18.0-20.0 | Clay | 3.2 | 2.0 | ND |
| | S9 | 20.0-22.0 | Clay | 3.4 | 2.0 | ND |
| | S10 | 22.0-23.0 | Clay | 5.4 | 2.0 | TR |
| | S10A | 23.0-24.0 | Sand | 7.2 | 2.0 | ND |
| | S11 | 24.0-26.0 | Sand | 7.2 | 2.0 | ND |
| | S12 | 26.0-28.0 | Sand | 7.6 | 2.0 | 0.002 |
| | S13 | 28.0-30.0 | Sand | 6.4 | 2.0 | 0.022 |
| | S14 | 30.0-32.0 | Sand | 4.0 | 2.0 | 0.005 |
| | S15 | 35.0-37.0 | Sand | 3.2 | 2.0 | 0.026 |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CCE3 | S1 | 0.0- 2.0 | Fill | 1.6 | 1.2 | ND |
| | S2 | 2.0- 4.0 | Fill | 1.8 | 1.2 | NA |
| | S3 | 4.0- 6.0 | Fill | 8.4 | 1.2 | ND |
| | S4 | 6.0- 8.0 | Fill | 1.8 | 1.2 | ND |
| | S5 | 8.0-10.0 | Fill | 2.6 | 1.2 | ND |
| | S6 | 10.0-11.0 | Fill | 4.0 | 1.2 | 0.590 |
| | S7 | 13.0-14.2 | Fill | 48.0 | 1.4 | NA |
| | S8 | 16.0-18.0 | Clay | 17.8 | 1.2 | 0.027 |
| | S9 | 18.0-20.0 | Clay | 20.0 | 1.2 | 0.010 |
| | S10 | 20.0-22.0 | Clay | 72.0 | 1.2 | 1.681 |
| | S11 | 22.0-24.0 | Clay | 62.0 | 1.2 | 1.675 |
| | S12 | 24.0-26.0 | Sand | 38.0 | 1.2 | 1.208 |
| | S13 | 26.0-28.0 | Sand | 42.0 | 1.2 | 0.010 |
| | S14 | 28.0-30.0 | Sand | 5.0 | 1.2 | 0.005 |
| | S15 | 30.0-32.0 | Sand | 5.6 | 1.2 | 0.031 |
| | S16 | 32.0-34.0 | Clay | 4.0 | 1.2 | 0.022 |
| | S17 | 34.0-36.0 | Clay | 4.0 | 1.2 | ND |
| CCE4 | S1 | 0.5- 2.5 | Fill | 3.2 | 2.0 | ND |
| | S2 | 2.5- 4.5 | Fill | 4.2 | 2.0 | 0.002 |
| | S3 | 5.0- 6.2 | Fill | 8.8 | 2.0 | 0.013 |
| | S4 | 8.0- 8.3 | Fill | 24.0 | 2.0 | 0.002 |
| | S5 | 12.0-14.0 | Fill | 7.8 | 2.0 | 0.002 |
| | S6 | 14.0-16.0 | Sand | 3.0 | 2.0 | 0.006 |
| | S7 | 16.0-16.5 | Sand | 8.0 | 2.0 | 0.037 |
| | S7A | 16.5-18.0 | Clay | 2.0 | 2.0 | ND |
| | S8 | 18.0-20.0 | Clay | 3.8 | 2.0 | ND |
| | S9 | 20.0-22.0 | Clay | 3.8 | 2.0 | TR |
| | S10 | 22.0-24.0 | Clay | 4.0 | 2.0 | ND |
| | S11 | 24.0-26.0 | Clay | 4.2 | 2.0 | ND |
| | S12 | 26.0-28.0 | Clay | 4.4 | 2.0 | ND |
| | S13 | 28.0-30.0 | Clay | 4.2 | 2.0 | ND |
| | S14 | 30.0-32.0 | Clay | 1.2 | 1.0 | ND |
| | S15 | 35.0-37.0 | Sand | 1.2 | 1.0 | ND |
| | S16 | 40.0-42.0 | Sand | 1.8 | 1.0 | ND |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CCE5 | S1 | 0.5- 2.5 | Fill | 2.6 | 1.8 | ND |
| | S2 | 2.5- 4.5 | Fill | 2.8 | 1.8 | ND |
| | S3 | 5.0- 7.0 | Fill | 20.0 | 1.8 | ND |
| | S4 | 7.0- 7.2 | Fill | 48.0 | 1.8 | ND |
| | S5 | 10.0-12.0 | Fill | 4.0 | 1.6 | ND |
| | S6 | 12.0-13.0 | Sand | 2.2 | 1.6 | ND |
| | S6A | 13.0-14.0 | Sand | 2.4 | 1.6 | ND |
| | S7 | 14.0-16.0 | Sand | 2.0 | 1.6 | ND |
| | S8 | 16.0-18.0 | Sand | 1.8 | 1.6 | ND |
| | S9 | 18.0-20.0 | Sand | 1.8 | 1.6 | ND |
| | S10 | 20.0-22.0 | Clay | 2.0 | 1.6 | ND |
| | S11 | 22.0-24.0 | Clay | 2.4 | 1.6 | ND |
| | S12 | 24.0-26.0 | Sand | 3.4 | 1.6 | ND |
| | S13 | 26.0-28.0 | Sand | 2.4 | 1.6 | ND |
| | S14 | 28.0-30.0 | Sand | 2.2 | 1.6 | ND |
| | S15 | 30.0-32.0 | Sand | 1.8 | 1.6 | ND |
| | S16 | 32.0-34.0 | Sand | 2.4 | 1.6 | ND |
| | S17 | 34.0-36.0 | Sand | 2.4 | 1.6 | ND |
| | S18 | 36.0-38.0 | Sand | 2.0 | 1.6 | ND |
| | S19 | 40.0-42.0 | Clay | 2.4 | 1.6 | ND |
| | S20 | 42.0-44.0 | Sand | 1.8 | 1.6 | ND |
| CCE6 | S1 | 1.0- 3.0 | Fill | 3.0 | 1.4 | 0.017 |
| | S2 | 3.0- 4.5 | Fill | 3.6 | 1.4 | ND |
| | S3 | 6.0- 6.3 | Fill | 14.8 | 1.4 | ND |
| | S4 | 8.0-10.0 | Fill | 5.4 | 1.4 | ND |
| | S5 | 10.0-12.0 | Fill | 224.0 | 1.4 | 36.506 |
| | S6 | 12.0-12.7 | Fill | 20.0 | 1.4 | ND |
| | S7 | 14.0-16.0 | Silt | 13.2 | 1.4 | 0.038 |
| | S8 | 16.0-18.0 | Silt | 11.0 | 1.4 | ND |
| | S9 | 18.0-20.0 | Sand | 6.2 | 1.4 | 0.124 |
| | S10 | 20.0-22.0 | Sand | 3.0 | 1.4 | ND |
| | S11 | 22.0-24.0 | Sand | 4.6 | 1.4 | 0.013 |
| | S12 | 24.0-26.0 | Sand | 6.2 | 1.4 | ND |
| | S13 | 26.0-28.0 | Sand | 3.2 | 1.4 | ND |
| | S14 | 28.0-30.0 | Sand | 4.2 | 1.4 | ND |
| | S15 | 30.0-32.0 | Sand | 5.8 | 1.4 | ND |
| | S16 | 32.0-34.0 | Sand | 3.2 | 1.4 | ND |
| | S17 | 34.0-36.0 | Sand | 5.2 | 1.4 | ND |
| | S18 | 36.0-38.0 | Sand | 4.0 | 1.4 | ND |
| | S19 | 40.0-42.0 | Sand | 7.2 | 1.8 | ND |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CCE7 | S1 | 1.0- 3.0 | Fill | 2.2 | 1.4 | TR |
| | S2 | 3.0- 3.7 | Fill | 2.0 | 1.4 | 0.004 |
| CCE7A | S3 | 5.0- 7.0 | Fill | 2.8 | 1.4 | ND |
| | S4 | 7.0- 9.0 | Fill | 1.8 | 1.4 | 0.006 |
| | S5 | 9.0-11.0 | Fill | 3.2 | 1.4 | ND |
| | S6 | 11.0-13.0 | Fill | 2.0 | 1.4 | ND |
| | S7 | 13.0-15.0 | Fill | 15.8 | 1.4 | TR |
| | S8 | 15.0-16.5 | Fill | 15.0 | 1.4 | 0.002 |
| | S8A | 16.5-17.0 | Sand | 3.0 | 1.4 | 0.002 |
| | S9 | 17.0-17.5 | Sand | 4.0 | 1.4 | 0.051 |
| | S9A | 17.5-19.0 | Clay | 2.2 | 1.4 | ND |
| | S10 | 19.0-21.0 | Clay | 3.0 | 1.6 | ND |
| | S11 | 21.0-23.0 | Clay | 3.0 | 1.6 | ND |
| | S12 | 23.0-25.0 | Sand | 3.8 | 1.6 | 0.002 |
| | S13 | 25.0-27.0 | Clay | 3.6 | 1.6 | ND |
| | S14 | 27.0-29.0 | Sand | 11.0 | 1.6 | 0.001 |
| | S15 | 30.0-32.0 | Sand | 4.0 | 1.6 | ND |
| | S16 | 35.0-37.0 | Sand | 6.4 | 1.6 | 0.055 |
| | S17 | 40.0-42.0 | Clay | 3.4 | 1.6 | ND |
| CCE9 | S1 | 1.0- 3.0 | Fill | 2.0 | 1.6 | ND |
| | S2 | 3.0- 5.0 | Fill | 2.4 | 1.6 | 0.003 |
| | S3 | 5.0- 7.0 | Fill | 24.0 | 1.6 | 0.007 |
| | S4 | 7.0- 9.0 | Fill | 3.8 | 1.6 | 0.002 |
| | S5 | 9.0-10.5 | Fill | 11.6 | 1.6 | 0.006 |
| | S5A | 10.5-11.0 | Silt | 3.6 | 1.6 | ND |
| | S6 | 11.0-13.0 | Clay | 1.8 | 1.6 | ND |
| | S7 | 13.0-15.0 | Clay | 2.0 | 1.6 | ND |
| | S8 | 15.0-17.0 | Clay | 1.8 | 1.6 | ND |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CCE9 (cont.) | S9 | 17.0-19.0 | Clay | 1.8 | 1.6 | ND |
| | S10 | 19.0-21.0 | Sand | 4.4 | 1.6 | ND |
| | S11 | 21.0-21.5 | Sand | 22.0 | 1.6 | TR |
| | S11A | 21.5-23.0 | Clay | 1.8 | 1.6 | ND |
| | S12 | 23.0-25.0 | Sand | 3.0 | 1.6 | ND |
| | S13 | 25.0-27.0 | Sand | 5.0 | 1.6 | TR |
| | S14 | 27.0-29.0 | Sand | 4.4 | 1.6 | ND |
| | S15 | 29.0-31.0 | Sand | 12.4 | 1.6 | TR |
| | S16 | 31.0-33.0 | Sand | 2.8 | 1.6 | 0.002 |
| | S17 | 33.0-34.5 | Sand | 12.0 | 1.6 | 0.012 |
| | S17A | 34.5-35.0 | Clay | 2.2 | 1.6 | ND |
| | S18 | 35.0-37.0 | Clay | 1.8 | 1.6 | ND |
| | S19 | 40.0-41.5 | Sand | 1.8 | 1.6 | 0.012 |
| CCE11 | S1 | 1.5- 3.5 | Fill | 7.0 | 1.4 | 0.073 |
| | S2 | 3.5- 5.5 | Fill | 6.0 | 1.4 | 0.004 |
| | S3 | 5.5- 7.5 | Fill | 6.6 | 1.4 | 0.007 |
| | S4 | 7.5- 9.5 | Fill | 3.6 | 1.4 | 0.005 |
| | S5 | 10.0-12.0 | Fill | 4.0 | 1.4 | 0.004 |
| | S6 | 12.0-14.0 | Silt | 4.6 | 1.4 | 0.002 |
| | S7 | 14.0-16.0 | Silt | 4.0 | 1.4 | 0.003 |
| | S8 | 16.0-18.0 | Silt | 3.4 | 1.4 | 0.005 |
| | S9 | 20.0-21.0 | Silt | 2.6 | 1.4 | 0.004 |
| | S9A | 21.0-22.0 | Sand | 3.2 | 1.4 | 0.002 |
| | S10 | 22.0-23.0 | Sand | 2.8 | 1.4 | 0.003 |
| | S10A | 23.0-24.0 | Silt | 2.8 | 1.4 | 0.002 |
| | S11 | 24.0-26.0 | Sand | 3.6 | 1.4 | 0.006 |
| | S12 | 26.0-28.0 | Sand | 3.6 | 1.4 | 0.004 |
| | S13 | 28.0-30.0 | Sand | 3.6 | 1.4 | 0.006 |
| | S14 | 30.0-32.0 | Sand | 3.0 | 1.4 | 0.005 |
| | S15 | 32.0-34.0 | Sand | 5.4 | 1.4 | 0.007 |
| | S16 | 34.0-36.0 | Sand | 3.2 | 1.4 | 0.001 |
| | S17 | 36.0-38.0 | Sand | 5.4 | 1.4 | 0.004 |
| | S18 | 40.0-42.0 | Sand | 3.0 | 1.4 | 0.004 |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| CCE12 | S1 | 1.0- 3.0 | Fill | 1.8 | 1.4 | 0.002 |
| | S2 | 3.0- 5.0 | Fill | 1.8 | 1.4 | 0.004 |
| | S3 | 5.0- 7.0 | Fill | 13.4 | 1.4 | 0.009 |
| | S4 | 7.0- 9.0 | Fill | 7.6 | 1.4 | ND |
| | S5 | 9.0-11.0 | Fill | 16.6 | 1.4 | 0.007 |
| | S6 | 11.0-13.0 | Fill | 17.4 | 1.4 | ND |
| | S7 | 13.0-15.0 | Fill | 10.8 | 1.4 | 0.014 |
| | S8 | 15.0-17.0 | Fill | 14.0 | 1.4 | 0.006 |
| | S9 | 17.0-18.2 | Fill | 21.0 | 1.4 | ND |
| | S10 | 20.0-22.0 | Fill | 3.6 | 1.4 | 0.010 |
| | S11 | 22.0-23.0 | Fill | 14.4 | 1.4 | ND |
| | S12 | 25.0-25.6 | Fill | 11.2 | 1.4 | 0.20 |
| CCE12B | S1 | 35.0-37.0 | Clay | 3.4 | 1.4 | NA |
| | S2 | 37.0-39.0 | Clay | 2.8 | 1.4 | 0.010 |
| CCE13 | S1 | 10.0-12.0 | Fill | 4.4 | 1.0 | 0.027 |
| | S2 | 12.0-14.0 | Fill | 3.0 | 1.0 | 0.009 |
| | S3 | 14.0-16.0 | Fill | 15.2 | 1.4 | NR |
| | S4 | 16.0-17.1 | Fill | 4.8 | 1.4 | NA |
| | S5 | 19.5-21.5 | Fill | 3.2 | 1.2 | ND |
| | S6 | 21.5-22.0 | Fill | NR | NR | NR |
| | S7 | 23.0-25.0 | Fill | 1.2 | 1.2 | ND |
| | S8 | 25.0-27.0 | Fill | 1.2 | 1.2 | 0.003 |
| | S9 | 27.0-29.0 | Fill | 1.2 | 1.2 | 0.002 |
| | S10 | 29.0-31.0 | Fill | 1.2 | 1.2 | 0.004 |
| | S11 | 31.0-33.0 | Sand | 4.2 | 1.4 | 0.028 |
| | S12 | 33.0-35.0 | Sand | 34.0 | 1.4 | 0.007 |
| | S13 | 35.0-37.0 | Sand | 45.0 | 1.4 | 0.001 |
| | S14 | 37.0-39.0 | Sand | 18.6 | 1.4 | 0.003 |

-Continued-

TABLE III
(Continued)

HNU & GC READINGS OF HEADSPACE IN SOIL SAMPLE JARS
FOR DETECTABLE VOLATILE ORGANIC COMPOUNDS

COMMONWEALTH CENTER PROJECT
BOSTON, MASSACHUSETTS

| EXPLORATION NUMBER | SAMPLE NUMBER | DEPTH (feet) | SAMPLE TYPE | HNU[1] SAMPLE (ppm)[2] | HNU BACKGROUND (ppm) | GC[3] SAMPLE (ppm) |
|---|---|---|---|---|---|---|
| TP1 | S1 | 0.0-9.6 | Fill | 3.0 | 1.2 | NA |
| | S2 | 0.0-9.6 | Fill | 2.4 | 1.2 | NA |
| TP1A | S1 | 0.5-8.0 | Fill | 2.8 | 1.4 | NA |
| | S2 | 6.5 | Fill | 7.2 | 1.4 | NA |
| TP1C | S1 | 8.0-10.0 | Fill | 3.0 | 1.2 | NA |
| TP2 | S1 | 5.0-5.5 | Fill | 2.4 | 1.0 | NA |
| TP4 | S1 | 11.0 | Fill | 68.0 | 1.2 | NA |
| TP9 | S1 | 5.5 | Fill | 3.8 | 1.0 | NA |

NOTES:

1. Instrument was calibrated in accordance with manufacturer's recommended procedure using a calibration gas supplied by the manufacturer.

2. PPM represents concentration of detectable volatile and gaseous compounds in parts per million of air.

3. GC represents gas chromatograph screening results using the Photovac GC 10S50 portable gas chromatograph equipped with a CPSIL5 capillary column.

4. NA - Not Analyzed.

5. NR - No Recovery or not enough sample for analysis.

6. TR - Detected below reporting limit.

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TABLE IV [1]
SUMMARY OF CHEMICAL ANALYSES, SOILS FROM TEST BORINGS AND TEST PITS
COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

| PARAMETER | SAMPLE NO. (Sample Depth-Ft.) (Soil Type) | CCE1A-S4 (9.5-10.9) Fill | CCE1A-S12 (27.0-29.0) Clay | CCE2-S4 (10.0-12.0) Fill | CCE3-S10 (20.0-22.0) Sand | CCE3-S11 (22.0-24.0) Sand | CCE4-S4 (8.0-8.3) Fill | CCE5-S1 (0.5-2.5) Fill | CCE5-S3 (5.0-7.0) Fill | CCE6-S4 (8.0-10.0) Fill | CCE6-S5 (10.0-12.0) Fill | CCE6-S9 (18.0-20.0) Sand | CCE7A-S7 (13.0-15.0) Fill | CCE7A-S14 (27.0-29.0) Sand |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOLATILE ORGANICS [2] | | | | | | | | | | | | | | |
| Benzene | | * | * | * | * | ND | * | * | * | * | ND | ND | * | * |
| Toluene | | * | * | * | * | ND | * | * | * | * | ND | ND | * | * |
| Ethyl Benzene | | * | * | * | * | ND | * | * | * | * | ND | ND | * | * |
| Xylene | | * | * | * | * | ND | * | * | * | * | ND | ND | * | * |
| SEMI-VOLATILE ORGANICS [2] | | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Phenanthrene | | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Fluoranthene | | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Pyrene | | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Benzo(b)fluoranthene | | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Benzo(k)fluoranthene | | * | * | * | * | * | * | * | * | * | * | * | * | * |
| METALS | | | * | * | * | * | * | * | * | * | * | * | * | * |
| Antimony | | ND | * | * | * | * | * | * | * | * | * | * | * | * |
| Arsenic | | 7.5 | * | * | * | * | * | * | * | * | * | * | * | * |
| Beryllium | | 0.4 | * | * | * | * | * | * | * | * | * | * | * | * |
| Cadmium | | ND | * | * | * | * | * | * | * | * | * | * | * | * |
| Chromium | | 16 | * | * | * | * | * | * | * | * | * | * | * | * |
| Copper | | 26 | * | * | * | * | * | * | * | * | * | * | * | * |
| Lead | | 840 | * | * | * | * | * | * | * | * | * | * | * | * |
| Mercury | | 0.2 | * | * | * | * | * | * | * | * | * | * | * | * |
| Nickel | | 13 | * | * | * | * | * | * | * | * | * | * | * | * |
| Selenium | | ND | * | * | * | * | * | * | * | * | * | * | * | * |
| Silver | | ND | * | * | * | * | * | * | * | * | * | * | * | * |
| Thallium | | ND | * | * | * | * | * | * | * | * | * | * | * | * |
| Zinc | | 353 | * | * | * | * | * | * | * | * | * | * | * | * |
| TOTAL PETROLEUM HYDROCARBON BY IR | | 97 | ND | ND | 950 | ND | 160 | * | 320 | * | ND | * | ND | ND |
| FINGERPRINTING | | | | | | | | | | | | | | |
| Fuel Oil | | * | * | * | * | No. 2 | * | * | * | * | * | * | * | * |
| Lubricating Oil | | * | * | * | * | * | * | * | * | * | Present | * | * | * |
| Turpentine | | * | * | * | * | * | * | * | * | * | Present | * | * | * |
| Total Petroleum Hydrocarbon | | * | 7.0 | * | * | 96 | * | * | * | * | 69 | * | * | * |
| PESTICIDES/PCBs | | Present | * | * | * | ND | * | * | * | * | * | * | ND | * |
| ASBESTOS | | * | * | * | * | * | * | ND | * | ND | * | * | * | * |

NOTES:
1-all results reported in parts per million (ppm).
2-Listing only of chemical constituents detected.
*-not analyzed.
ND-Not Detected above reporting limit.



(Continued)

TABLE IV
(Continued)
SUMMARY OF CHEMICAL ANALYSES, SOILS FROM TEST BORINGS AND TEST PITS
COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

| PARAMETER | SAMPLE NO. (Sample Depth-Ft.) (Soil Type) | CCE7A-S16 (35.0-37.0) Sand | CCE9-S3 (5.0-7.0) Fill | CCE9-S15 (29.0-31.0) Sand | CCE11-S3 (5.5-7.5) Fill | CCE11-S4 (7.5-9.5) Fill | CCE12-S2 (3.0-5.0) Fill | CCE12-S5 (9.0-11.0) Fill | CCE13-S1 (10.0-12.0) Fill | CCE13-S11 (31.0-33.0) Sand | CC114-S7 (14.0-15.0) Fill | CC114-S9A (25.0-26.0) Sand | TP1A-S2 (3.5) Fill | TP4-S1 (11.0) Fill | TP8-S1 (4.0-4.3) Fill |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOLATILE ORGANICS[2] | | | | | | | | | | | | | | | |
| Benzene | | ND | * | * | * | * | * | * | * | ND | * | * | * | * | * |
| Toluene | | ND | * | * | * | * | * | * | * | ND | * | * | * | * | * |
| Ethyl Benzene | | ND | * | * | * | * | * | * | * | ND | * | * | * | * | * |
| Xylene | | ND | * | * | * | * | * | * | * | ND | * | * | * | * | * |
| SEMI-VOLATILE ORGANICS[2] | | | | | | | | | | | | | | | |
| Phenanthrene | | * | * | * | * | * | * | * | 0.660 | * | * | * | * | * | * |
| Fluoranthene | | * | * | * | * | * | * | * | 0.640 | * | * | * | * | * | * |
| Pyrene | | * | * | * | * | * | * | * | 0.810 | * | * | * | * | * | * |
| Benzo(b)fluoranthene | | * | * | * | * | * | * | * | 0.490 | * | * | * | * | * | * |
| Benzo(k)fluoranthene | | * | * | * | * | * | * | * | 0.490 | * | * | * | * | * | * |
| METALS | | | | | | | | | | | | | | | |
| Antimony | | * | * | * | ND | * | * | * | ND | * | * | * | * | * | * |
| Arsenic | | * | * | * | 4.1 | * | * | * | 13 | * | * | * | * | * | * |
| Beryllium | | * | * | * | 0.5 | * | * | * | ND | * | * | * | * | * | * |
| Cadmium | | * | * | * | ND | * | * | * | ND | * | * | * | * | * | * |
| Chromium | | * | * | * | 19 | * | * | * | 18 | * | * | * | * | * | * |
| Copper | | * | * | * | 32 | * | * | * | 134 | * | * | * | * | * | * |
| Lead | | * | * | * | 54 | * | * | * | 250 | * | * | * | * | * | * |
| Mercury | | * | * | * | ND | * | * | * | 2.4 | * | * | * | * | * | * |
| Nickel | | * | * | * | 16 | * | * | * | 15 | * | * | * | * | * | * |
| Selenium | | * | * | * | ND | * | * | * | ND | * | * | * | * | * | * |
| Silver | | * | * | * | ND | * | * | * | ND | * | * | * | * | * | * |
| Thallium | | * | * | * | ND | * | * | * | ND | * | * | * | * | * | * |
| Zinc | | * | * | * | 67 | * | * | * | 162 | * | * | * | * | * | * |
| TOTAL PETROLEUM HYDROCARBON BY IR | | * | 850 | ND | 80 | * | * | ND | ND | * | 520 | 990 | 680 | 710 | * |
| FINGERPRINTING | | | | | | | | | | | | | | | |
| Fuel Oil | | * | * | * | * | * | * | * | * | * | No.2 | No.2 | * | * | * |
| Lubricating Oil | | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Turpentine | | * | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Total Petroleum Hydrocarbon | | * | * | * | * | * | * | * | * | * | 1,900 | 2,900 | * | * | * |
| PESTICIDES/PCBs | | * | * | * | ND | * | * | * | * | * | * | * | * | * | * |
| ASBESTOS | | * | * | * | * | ND | ND | * | * | * | * | * | * | * | 30% |

NOTES: 1-all results reported in parts per million (ppm).
2-Listing only of chemical constituents detected.
*-not analyzed.
ND-Not Detected above reporting limit.

5746-41 Sept.'89 cctsn, t1.aj57

HALEY & ALDRICH, INC.

TABLE V

COMPARISON OF METALS IN SOILS AT COMMONWEALTH CENTER WITH NATURAL SOILS FROM THE THIRD HARBOR TUNNEL PROJECT, AND EASTERN UNITED STATES

| | EASTERN UNITED STATES 1 | | THIRD HARBOR TUNNEL 2 | | COMMONWEALTH CENTER | |
|---|---|---|---|---|---|---|
| CONSTITUENT | RANGE | MEAN | RANGE | MEAN | RANGE | MEAN |
| Antimony | <1-8.8 | 0.76 | 7.8-148 | 54.4 | ND | ND |
| Arsenic | 0.1-7.3 | 7.4 | 4.15-94.4 | 33.2 | 4.1-13 | 8.2 |
| Beryllium | <1-7 | 0.85 | <0.5-1.4 | 0.71 | ND-0.5 | 0.3 |
| Cadmium | 0.1-0.7 | NA | <0.5-1.71 | 1.1 | ND | ND |
| Chromium | 1-1000 | 52 | 9.7-50.8 | 24.4 | 16-19 | 17.67 |
| Copper | <1-700 | 22 | 8.4-61.8 | 24.1 | 26-134 | 64 |
| Lead | <10-300 | 17 | 4-94.7 | 27.4 | 54-840 | 381.3 |
| Mercury | 0.01-3.4 | 0.12 | ND-0.65 | 0.11 | ND-2.4 | 0.87 |
| Nickel | 15-700 | 18 | 7.89-48.6 | 25.7 | 13-16 | 14.67 |
| Selenium | <0.1-3.9 | 0.45 | 0.90-86.4 | 8.5 | ND | ND |
| Silver | NA | NA | <0.5-8.7 | 1.1 | ND | ND |
| Thallium | 23 | NA | 1.1-15.5 | 8.0 | ND | ND |
| Zinc | <5-2900 | 52 | 18-444 | 80.8 | 67-353 | 194 |

NOTES:

1. Range and mean data for Eastern United States from "Element Concentrations in Soils and Other Surficial Materials in Conterminous United States", Hansford T. Shacklette and Josephine C. Boerngen, U.S. Geologic Survey Professional Paper 1270, U.S. Governments Printing Office, Washington 1984.
2. Range and mean data from native soils for Third Harbor Tunnel Project from "Soil Characterization Report for Central Artery/Third Harbor Tunnel Project", Jason M. Cortell and Associates, May 1989.
3. All results reported in parts per million (ppm).
4. NA - Not Analyzed
5. ND - None Detected

0567q

TABLE VI [1]
SUMMARY OF CHEMICAL ANALYSES, GROUNDWATER FROM OBSERVATION WELLS
COMMONWEALTH CENTER, BOSTON, MASSACHUSETTS

| PARAMETER | SAMPLE NO.<br>Screen Depth, Ft. | CCE1A-OW<br>(14.0-34.0) | CCE3-OW<br>(16.0-36.0) | CCE4-OW<br>(20.0-40.0) | CCE5-OW<br>(24.5-44.5) | CCE6-OW<br>(23.0-43.0) | CCE7A-OW<br>(17.0-37.0) | CCE9-OW<br>(19.5-39.5) | CCE29-OW<br>(Rns.Blnk) | CCE11-OW<br>(19.0-39.0) | CCE12B-OW<br>(12.0-32.0) | CCE13-OW<br>(24.0-34.0) | CCE20-OW<br>(Trip Blnk) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOLATILE ORGANICS [2] | | | | | | | | | | | | | |
| Acetone | | ND | ND | ND | ND | ND | ND | ND | ND | ND | .035 | ND | ND |
| Benzene | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Toluene | | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethyl Benzene | | 0.01 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Xylene | | 0.005 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| METALS | | | | | | | | | | | | | |
| Antimony | | ND | * | * | * | * | * | * | * | * | * | ND | * |
| Arsenic | | ND | * | * | * | * | * | * | * | * | * | ND | * |
| Beryllium | | ND | * | * | * | * | * | * | * | * | * | ND | * |
| Cadmium | | ND | * | * | * | * | * | * | * | * | * | ND | * |
| Chromium | | 0.01 | * | * | * | * | * | * | * | * | * | ND | * |
| Copper | | 0.01 | * | * | * | * | * | * | * | * | * | ND | * |
| Lead | | 0.009 | * | * | * | * | * | * | * | * | * | ND | * |
| Mercury | | ND | * | * | * | * | * | * | * | * | * | ND | * |
| Nickel | | ND | * | * | * | * | * | * | * | * | * | ND | * |
| Selenium | | ND | * | * | * | * | * | * | * | * | * | ND | * |
| Silver | | ND | * | * | * | * | * | * | * | * | * | ND | * |
| Thallium | | ND | * | * | * | * | * | * | * | * | * | ND | * |
| Zinc | | 0.10 | * | * | * | * | * | * | * | * | * | ND | * |
| TOTAL PETROLEUM HYDROCARBON, BY IR | | ND | 2.0 | ND | ND | ND | ND | ND | * | ND | ND | 3.7 | * |

NOTES: 1-all results reported in parts per million (ppm).
2-Listing only of chemical constituents detected.
*-not analyzed.
ND-Not Detected above reporting limit.

5746-41
Sept.'89
cctgwn

(Continued)

TABLE VI
(Continued) [1]
SUMMARY OF CHEMICAL ANALYSES, GROUNDWATER FROM OBSERVATION WELLS
COMMONWEALTH CENTER, BOSTON, MASSACHUSETTS

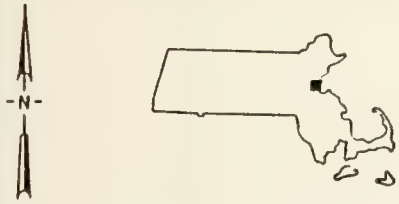
| PARAMETER [2] | SAMPLE NO.<br>Screen Depth, Ft. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | CC101-OW<br>(22.0-47.0) | CC103-OW<br>(20.0-40.0) | CC133-OW<br>(Dup. 103) | CC114-OW<br>(20.0-40.0) | CC115-OW<br>(20.0-40.0) | CC117-OW<br>(17.0-37.0) | CC202-OW<br>(19.0-39.0) | CC203-OW<br>(18.0-38.0) |
| VOLATILE ORGANICS | | | | | | | | |
| Acetone | ND | ND | ND | ND | ND | ND | ND | ND |
| Benzene | ND | ND | ND | ND | ND | ND | ND | ND |
| Toluene | ND | ND | ND | ND | ND | ND | ND | ND |
| Ethyl Benzene | ND | ND | ND | ND | ND | ND | ND | ND |
| Xylene | ND | ND | ND | ND | ND | ND | ND | ND |
| METALS | | | | | | | | |
| Antimony | * | * | * | * | * | * | * | * |
| Arsenic | * | * | * | * | * | * | * | * |
| Beryllium | * | * | * | * | * | * | * | * |
| Cadmium | * | * | * | * | * | * | * | * |
| Chromium | * | * | * | * | * | * | * | * |
| Copper | * | * | * | * | * | * | * | * |
| Lead | * | * | * | * | * | * | * | * |
| Mercury | * | * | * | * | * | * | * | * |
| Nickel | * | * | * | * | * | * | * | * |
| Selenium | * | * | * | * | * | * | * | * |
| Silver | * | * | * | * | * | * | * | * |
| Thallium | * | * | * | * | * | * | * | * |
| Zinc | * | * | * | * | * | * | * | * |
| TOTAL PETROLEUM HYDROCARBON, BY IR | ND | ND | ND | 18 | 3.7 | ND | ND | 17 |

NOTES: 1-all results reported in parts per million (ppm).
2-Listing only of chemical constituents detected.
*-not analyzed.
ND-Not Detected above reporting limit.

5746-41
Sept.'89
cctgwan

Figures

SITE COORDINATES: 42°21'11"N 71°03'50"W




U.S.G.S. QUADRANGLE: BOSTON SOUTH, MA

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS
CONSULTING GEOTECHNICAL ENGINEERS, GEOLOGISTS AND HYDROGEOLOGISTS

OIL AND HAZARDOUS MATERIAL SITE EVALUATION
COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

PROJECT LOCUS

APPROX. SCALE 1:25,000

OCTOBER 1989

FILE NO. 05746-00 A14

FIGURE 1

LEGEND

B1 REFERS TO PARCEL DESCRIBED IN APPENDIX A

TP8 APPROXIMATE LOCATION AND DESIGNATION OF EXPLORATORY TEST PIT EXCAVATED BY JEREMIAH SULLIVAN & SONS DURING THE PERIOD 7 JULY 1989 TO 8 AUGUST 1989. REFER TO APPENDIX B FOR TEST PIT LOGS AND SKETCHES

CCE13 OW APPROXIMATE LOCATION AND DESIGNATION OF ENVIRONMENTAL TEST BORING DRILLED BY GUILD DRILLING CO., INC. DURING THE PERIOD 9 MAY 1989 TO 16 AUGUST 1989. REFER TO APPENDIX C FOR ENVIRONMENTAL TEST BORING LOGS

CC115 OW/PZ APPROXIMATE LOCATION AND DESIGNATION OF GEOTECHNICAL TEST BORING DRILLED BY GUILD DRILLING CO., INC. DURING THE PERIOD 11 MAY 1989 TO 6 SEPTEMBER 1989. REFER TO APPENDIX D FOR TEST BORING LOGS

OW INDICATES GROUNDWATER OBSERVATION WELL INSTALLED IN COMPLETED BOREHOLE. REFER TO APPENDIX E FOR OBSERVATION WELL INSTALLATION AND MONITORING REPORTS.

▲ PRESENT LOCATION OF ABOVE GROUND FUEL OIL TANK
△ FORMER LOCATION OF ABOVE GROUND FUEL OIL TANK
⚠ FORMER FUEL OIL TANK LOCATION UNCONFIRMED

NOTES

1. BASE PLAN ADAPTED FROM DRAWING PREPARED BY KOHN PEDERSEN FOX ASSOCIATES, ENTITLED "SITE SURVEY", DATED 23 NOVEMBER 1988, SCALE 1 IN. = 32 FT
2. LOCATIONS AND ELEVATIONS OF TEST PITS AND TEST BORINGS WERE DETERMINED IN THE FIELD BY HALEY & ALDRICH, INC., RELATIVE TO EXISTING SITE FEATURES AND BENCHMARKS, RESPECTIVELY

40 0 40 80
scale feet

Haley & Aldrich, Inc.
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

# PARCEL DIVISION PLAN

SCALE: AS SHOWN

OCTOBER 1989

FILE NO.05746-41 B11-S

FIGURE 2

# Appendix A

# APPENDIX A

## Parcel Histories & Usage

# STATE THEATRE (B1)

Address: 619-631 Washington Street

Known previously as the Crabtree Building and more recently as the State Theatre.

History:

- Built in the early 1870's. Comprised of two and possibly three different structures for theatre and lodging (8).
- By 1885, the International Hotel and the Park Theatre (5).
- By 1895, the Hotel Reynolds and the Park Theatre (7).
- By 1909, the Hotel Cecil and the Park Theatre (9).
- By 1929, the New Park Theatre (moving pictures) (10).
- By 1937, the Hub Theatre (movies) (8).
- By 1951, Translux Theatre (movies) (11).
- During these earlier years various business offices, stores, and restaurants also occupied the complex along with the theatre.
- By 1960 -1979, State Theatre (12).
- By the 1980's, the entrances to the building provided access to the State Theatre, CB Lounge, Continental Menswear Limited, and the State Cinema.

Summary of Site Visit:

Current Conditions:

- Presently, the State Theatre complex is not occupied and is in poor condition from water damage and vandalism.
- The majority of the complex is six stories in height and composed of brick. The heights vary in the southernmost center portion of the building.

- The basement was accessible, except below the CB Lounge. The basement areas, which were observed, were vacant.

Heating and Cooling Systems:

- Heat for the building is supplied by piped-in steam.
- Air conditioning unit located below the stage of theatre.

Sumps or Other Subgrade Features:

- No sumps were observed. However, the floor of the northern half of the complex is in poor condition with several holes. Water gate boxes were observed in several locations.

Evidence of Oil or Hazardous Materials:

- No liquid storage tanks of any kind were observed in the basement of the building complex. Minor petroleum staining (lubricant) was observed by the pumps for the freon mixture for the air conditioning.

1423t

# LIBERTY BOOKSTORE (B2)

Address: 613-617 Washington Street

History:

- Age of building unknown.
- 1885 to 1929, unknown building usage (5,7,9,10).
- By 1930, 613-615 Letter Shop, Insurance and Real Estate Offices (13).
- By 1951, northeast quadrant identified as a bowling alley (11).
- By 1960, 613 The Waldorff Restaurant, 615 Bond Bowling & Billiards (13).
- By 1979, Fuschette (Jeweler) (13).
- By 1981, vacant (13).
- By 1985, Stores and Theatres Notice: unsafe and dangerous - make safe or raze (14).
- By 1989, the Liberty Bookstore, and Video Parlor & Viewing Booths.

Summary of Site Visit:

Current Conditions:

- Presently, this two-story building is occupied. The second floor is used for offices, the first floor is used as a store and viewing booths, and the basement is used for storage and stores.

Heating and Cooling Systems:

- The building is heated with electricity.

Sumps or Other Subgrade Features:

- No sumps were observed. However, the basement was in good condition and dry throughout.

Evidence of Oil or Hazardous Materials:

- No liquid storage tanks of any kind were observed in the basement. No evidence of oil or hazardous materials.

1423t

# HAYMARKET PLACE (B3)

Address: 8-12 Haymarket Place

Known as the Bryant Loft Building.

History:

- The five-story masonry structure was built in 1879 (8).
- By 1885, a printing shop was located on the second floor, piano manufacturing on the third and fourth floors (5).
- By 1895, only the printing shop was identified (7).
- From early 1900s until the 1980's, the first and second floors were commonly used as a restaurant with a kitchen in the basement. The upper floors were likely to have been used as offices or small businesses (9,10,11).
- By 1989, the first floor is used as a bar.

Summary of Site Visit:

Current Conditions:

- Presently, the building is occupied by a bar on the first floor. The upper floors are not fully occupied.
- The basement is partitioned into two areas. One area is accessed from Morgies, the southeasterly abutting building. This area houses a new oil furnace, an old oil furnace, a 4,000 gallon fuel oil tank, and a freight elevator. Minor amounts of lubricant oil staining was observed around the freight elevator machinery. Oily rags and oily buckets were observed around the fuel oil tank. The floor around the old furnace was heavily oil stained. No tank was observed in the "old tank room", east of the former oil burner, see Figure 2. The other room was accessed through the bar located on the first floor of the building. This area is utilized to service the bar. A variety of alcohols are stored here and there is a small kitchen area. Also stored are building supplies for daily maintenance.

Heating and Cooling Systems:

- The building is heated by the oil furnace located in the basement.

Sumps or Other Subgrade Features:

- A sump was located in the area near the new burner and in a storage area of the other basement.

Evidence of Oil or Hazardous Materials:

- Oily rags, buckets, and petroleum staining (fuel oil and lubricant) are present in several locations in the basement area with the new and old furnaces. The fuel oil tank filler pipe located on the outside of the building on Haymarket Place is heavily oil stained.

1423t

# MORGIES (B4)

Address: 605-611 Washington Street

History:

- Six-story building built around 1875 and first occupied by Henry F. Miller - The Pianoforte Company (8).
- By 1885, the building was closed for repairs (5).
- By 1895, a furnace had been placed in the northwest quadrant (5).
- By 1909, a restaurant was located on the first floor (9).
- For the next 80 years, a variety of establishments occupied the building including: stores, offices, and restaurants.

Summary of Site Visit:

Current Conditions:

- Presently, this six-story building is occupied by Morgies Goodwill Clothing Store on the first floor and Carver and Schell Furniture and Clothing Store on the upper floors.
- The basement is not occupied and is in poor condition. There were puddles on the floor and/or it was damp in other locations. In the front of the building was an old backup electric generator. In the rear, an old air condition system and a steam laundry press. To the south, an elevator room and pit with dark staining on the floor (likely from lubricant for the elevator which is old). No tanks were observed.

Heating and Cooling Systems:

- The building was formerly heated by coal, but presently is heated by oil. The furnace which heats this building is located in the Haymarket Place (B3) basement.

- 9 July 1946, a coal vault was extended into Fayette Lot to receive a 5,000 gallon fuel oil tank (14). Fire Permit No. N15899 (14). This may have been located in the room described as the "old tank room" in the Haymarket basement description, see Figure 2. No tanks were observed in this room.

Sumps or Other Subgrade Features:

- A sump pump is located in the front of the basement and in the rear where water visible. No unusual sheens were noted on the water surface.

Evidence of Oil or Hazardous Materials:

- No liquid storage tanks of any kind were observed in the basement. Very dark petroleum stains (lubricant) were observed on the floor in the elevator room. An oil spill or leak occurred 2 July 1988. Highly flammable varnishes were part of the piano making process (8).

1423t

ALLRIGHT PARKING OFF
FAYETTE COURT (P1)

Address: 597-601 Washington Street

History:

- By 1885, a four story building identified as Bicycle repairing with a furnace room at the west end (5).
- By 1895, unknown building usage (7).
- By 1904, retail stores (6).
- By 1909 to 1951, unknown building usage (9,10,11)
- 1950's to the 1980's site usage has been identified to include, restaurants, stores, offices and clothing retailers (11,12,13,14).
- By 1981 the building had been razed and paved for a parking lot, which is its current use (13,14).

Summary of Site Visit:

Current Conditions:

- Presently the site is paved and used as a parking lot. There is a small attendant booth at the east end of the lot.

Evidence of Oil or Hazardous Material:

- No evidence of oil or hazardous material was observed.

1423t

# AVERY HOTEL (B5)

Address: 593-595 Washington Street and 10 Avery Street
(Originally, 2 through 20 Avery Street)

History:

- By 1885, a variety of structures were present at this location including:
  6 Avery, Museum
  12 Avery, Laundry in Basement
  16 Avery, Window Shade Manufacturer on the first floor with lodgings above
  1820 Avery, Piano Manufacturer on 3rd, 4th, and 5th floors (5).

- From 1885 to 1914 a variety of small three and five story structure occupied this parcel (8). Usage is not often indicated. In 1909 various manufacturing took place in the building on the corner of Avery Street and Hay Market Place.

- By 1914, Avery Street was widened and the small structures demolished. At this time the narrow lot curved out along the south side of the new Avery Street was purchased for the construction of a first class hotel, at which time the Avery Hotel was constructed (8). Also located within the hotel were stores, offices, and restaurants.

- By 1989, the Avery Hotel is still standing but vacant.

Summary of Site Visit:

Current Conditions:

- Presently, the Avery Hotel is not occupied and is in poor condition from neglect, water damage, and vandalism.

- There is a basement and a subbasement. The basement is partitioned and therefore accessed by two locations, one from the center of the building on Avery Street, and the other from the entrance at Washington Street. The subbasement does encompass the full foot print of the building like the basement does. The subbasement is only present on the western half of the building, prior to the "L" shape turn, see Figure 2.

- Water was present on the floor of the furnace room and the oil tank bunker in the subbasement.

- Old air conditioners and a variety of supplies for building maintainence were stored in the basement western half. The eastern half is an open lounge area.

- The upper rooms are vacant, though vagrants have left some belongings.

Heating and Cooling Systems:

- Heat for the building was provided by a furnace located in the subbasement. A fuel oil tank was located in a partial bunker in the subbasement. The tank, approximately 10,000 gallons, appeared in good condition, however, water was trapped in the burners.

- The furnace and associated water tanks were in poor condition.

- An electrical room was located in the northwest corner of the subbasement.

Sumps or Other Subgrade Features:

- A sump pit was observed in the furnace room in the subbasement. This was the lowest room in the building.

Evidence of Oil or Hazardous Materials:

- Water observed on the fuel oil tank bunker and the floor of the furnace room was not visibly contaminated.

ALLRIGHT PARKING ON
AVERY AND WASHINGTON STREETS (P2)

Address: 575-585 Washington Street
Parking lot bordered by Washington Street to East Avery Street to the south Avery Place to the west, and the Hurwitz building to the north.

History:

- By 1885, several small structures occupied this part which were utilized as Tailor shops, furniture finishing and manufacturing shops and a restuarant (5).
- 1895 to 1909, a five story building occupied the site, which was identified as "Clark's Hotel" (7).
- By 1909, the "Pastime Theatre" a moving picture theatre, occupied the southeast corner of the building (9).
- 1929 to 1951, the building usage was unknown (10,11).
- By 1960, building usage includes a bar and cocktail lounge, a clothing manufactures, and a cafe (13).
- By 1981, Building razed and site occupied by AllRight Parking Lot.

Summary of Site Visit:

Current Conditions:

- Presently the site is completely asphalt paved and used for parking. An attendants booth is located the southwest corner of the lot.

Evidence of Oil and Hazardous Materials:

- No evidence of oil or hazardous materials was observed.

1423t

# HOUSE OF HURWITZ BUILDING (B6)

Address: 571-573 Washington Street.
(Originally, 569 to 573 Washington Street)

History:

- By 1885, several small structures occupied this site. Usage included, furniture manufacturing, upholstoring, and finishing (5).
- 1895 to 1935, a single six story structure occupied the site and was identified as an annex of the Adams House Hotel and remained so until the early 1900's when it was vacated (7,9,14).
- 1935, a two story brick structure was built (14). The basement was to be used as a store (14).
- By 1967, this building was known as the House of Hurwitz, a retail store and warehouse for novelties, small appliances and electronics (14).

Summary of Site Visit:

Current Conditions:

- The building is not occupied and is in good condition.
- The first and second floors are open with some remaining novelty items remaining. An office is located in the rear of the first floor.
- The basement is open the length of the building and also contains some remaining novelty items stored on large wooden shelves.
- The concrete floor was dry.
- A sidewalk vault, also containing novelty items, was accessible at the front of the basement.
- An elevator is located in the southwest corner of the building.

Heating and Cooling System:

- Heat for the building is supplied by steam.

Sumps or Other Subgrade Features:

- Sumps were not observed

Evidence of Oil or Hazardous Materials:

- No evidence of oil or hazardous materials was observed.

1423t

# SALLINGER BUILDING (B7)

Address: 565-569 Washington Street

History:

- By 1745, the Lamb Tavern, a two story free building with a gambel roof occupied the site (8).
- By 1844, The Lamb Tavern was demolished(8).
- By the mid-1800s a new building was constructed whose occupants included C. Nowel & Co., Boots & Shoes and L. Thompson's Bonnet-Rooms (8).
- By 1877, occupants included a hat store, bar room, and photographer (8).
- By 1885, a four story building occupied the site and was identified as a museum (5).
- By 1895 - 1920s, a six story building with a basement occupied the site and was identified as the Adams House Hotel (7,8).
- 1929, The building was scheduled to be razed (9).
- In 1930, the property was listed as "Boyles Brothers Clothing", likely located in the new five story building (8).
- By 1951, the site is occupied by a five story building with basement to the east and a 3 story building to the northwest and 1 story building with basement to the southwest (10).
- In 1981, the property was listed as "Sallingers Mens & Womens Clothes".
- In 1983, a "One Hour Moto/Photo" was located on the first floor with Sallingers on the upper floors.

Summary of Site Visit:

Current Conditions:

- The building is not occupied and is generally in good condition.

- The first and upper floors are vacant. Piping for the film processing equipment was observed on the front of the first floor leading to the basement.

- The basement is vacant and the floor is in poor condition. The pipes observed on the first floor lead to a "chemical storage room" likely to have contained film processing chemicals. The floor in this room is tacky and in poor condition.

- An elevator is located on the north side of the building in the eastern half.

Heating and Cooling Systems:

- Heat for the building is supplied by steam. New pumps have been recently installed.

Sumps or Other Subgrade Features:

- Sumps were not observed. However access to water lines below the basement floor were observed in three locations. In the chemical storage room a cylindrical pipe (4-6 in. diameter) was observed leading into the floor. A sewer line was observed along the north wall.

Evidence of Oil or Hazardous Materials:

- Hazardous materials associated with film processing are believed to have been stored in the chemical storage room. The floor in this room is tacky.

1423t

# PARAMOUNT THEATRE (B8)

Address: 549-563 Washington Street

History:

- 1885 - 1929, the Adams House, a six story, 300 room hotel, was present on this site (5,8,9).
- By 1931, the Adams House had been torn down and the two story Paramount Theatre constructed. The building included an underground service room (BB2) which extended south below part of the P2 parking lot, see Figure 2.
- The Paramount Theatre is present today but vacant.

Summary of Site Visit:

Current Conditions:

- The first floor of the theatre is vacant. The basement has not been accessible by the presence of several feet of water.

Heating and Cooling Systems:

- Not Observed

Sumps or Other Subgrade Features:

- Unknown

Evidence of Oil or Hazardous Materials:

- No evidence of oil or hazardous materials were observed.

1423t

# MASON PLACE COURTYARD (C1)

Address: Parcel of fenced in land surrounded by the eight story Mason Place Building off of Avery Place.

History:

- 1885 - 1929, site occupied by an eight story residential or commercial structure, with a basement, facing Avery Place, possibly an annex to the Adams House (B8) (5,9).
- By the early 1930s this building was likely razed along with the Adams House (B8) (9,10). This parcel has remained vacant since this time (10,11,12).

Summary of Site Visit:

Current Conditions:

- The courtyard was not accessible, however, through the fence a well vegetated courtyard with benches was observed.

Evidence of Oil or Hazardous Materials:

- No evidence of oil or hazardous materials was observed.

1423t

# ALLRIGHT PARKING (P3)

Address: 40-60 Mason Street with Mason Street Place to the south.

History:

- By 1885, the site was occupied by a three story Boarding Stable and Bradford Place, a dead end street, parallel to Mason Street Place, but not extending as far east (5).
- By 1895 to 1929, the B.F. Keith Theatre occupied the site. The stage was located towards Mason Street. A furnace room was located in the southwest corner of the site (7,9).
- By 1951, the Theatre reopened, and known as the Laff Movie Theatre (10).
- By June 1951, the Theatre was razed, and the area cleared for a parking lot (14).
- In 1989, the site continues to be used as a parking lot, with Allright Parking the current managers.

Summary of Site Visit:

Current Conditions:

- The site is paved and slopes to the east. A small attendant booth is present in the northwest corner. Several catch basins are present.

Evidence of Oil and Hazardous Materials:

- No evidence of oil or hazardous materials was observed.

1423t

# THE EVANS HOUSE (B9)

Address: 174-175 Tremont Street

History:

- In 1857, dwellings at 175 Tremont Street were purchased and demolished (8).
- In 1859, a five story brownstone with a basement was constructed (8).
- In 1866, the dwellings at 174 Tremont Street were purchased (8)
- In 1869 a similar brownstone to the one at 175 Tremont Street was built (8). These two buildings were known as the Evans House Hotel (8). A furnace room for the building was located in the south east basement of the building at 175 Tremont Street (5).
- During the 1880s the lower floors became occupied by commercial interests (8).
- In 1914, Avery Street was widened, the adjacent building to the north destroyed, and a new north wall erected. At this time Avery Street was also joined with Tremont Street. After this time, the occupancy became largely commercial (8).
- 1989, The Evans House is still standing and occupied by stores on the first floors with offices on the upper floors.

Summary of Site Visit:

Current Conditions:

- The Evans House is presently occupied by stores on the first floors with offices on the upper floors, and is in good condition.
- The building is bordered by Tremont and Avery Street to the west and north and parking lot to the east and south.

- A Fuel Oil filler pipe was observed in the rear (west) of the building. Petroleum staining was present on the ground and building at the pipe joint into the building, near the southeast corner.

- The Basement is divided in two halfs, reflecting the two stages of building construction.

- A hollow side walk vault is accessible at the front southern half of the basement on Tremont street. The southern half of the basement contains several 55-gallon drums for rubbish. These drums are located on a brick floor in the western half. Whereas to the east is a furnace with a 5,000 gallon fuel oil tank enclosed in a cinder block bunker. The floor in this eastern area is sand and brick. Some minor petroleum staining was observed at the bottom of the west side of the bunker. Also located in the central portion of this basement are two elevators and two hot water tanks. Another 55-gallon drum was observed and may have been partially filled with an unkown liquid.

- The northern half of the basement is divided with the eastern half occupied as a living quarters by the owner of the video store on the first floor. The remainder of this area is used as a storage area. The western half is also used for storage. The hollow side walk vault is not accessible as it is on the southern half of the basement.

Heating and Cooling Systems:

- The building is heated by an oil fired furnace. The oil is stored in a 5,000 gallon fuel oil tank in a bunker. Fuel oil may have previously been stored in an underground tank on the adjacent parking area (P4). Remnants of Oil fuel lines were encountered in TP1A.

- Air conditioning and electrical units were located in the western half of south basement.

Sumps or Other Subgrade Features:

- A sump was located by the furnace in the south basement. A brick line square sump like feature was located at the eastern end of the north basement.

Evidence of Oil or Hazardous Materials:

- Petroleum staining was observed outside the building at the oil fill pipe, and to a lesser extent along the edge of the cinder block bunker in the basement, see Figure 2.

1423t

# ALLRIGHT PARKING (P4)

Address: Bordered by Avery Street to the north, Haymarket Place and the State theatre to the east, the Franciscan House and Boylston Street to the south, and Head Place, several buildings east of Tremont Street, and the Evans House, to the west, see Figure 2.

History:

- By 1885, a variety of buildings occupied this large parcel. Building usage consisted of light manufacturing to the north, including, bottling, picture framing, and printing and tenants to the south (5).

- From 1895 to 1929, the northern portion of the site was occupied by the Tremont Theatre. Included in the Theatre complex were lodgings and a restaurant. The furnace room was located at the south end of the building by the stage (7,9,10).

- By 1909, a four-story building at the corner of Avery and Mason Streets stood adjacent to the Theatre and map mounting activities took place in this building (9).

- By 1951, the Tremont Theatre complex was labelled the Astor Theatre for movies (11).

- By 1979, the Astor Theatre complex was still standing, but abandoned (12).

- By 1981, the Theatre complex had been razed and Allright Parking was operating the entire parcel as a parking lot (13).

- From 1895 to the 1950s, the area south of Theatre was predominantly occupied by the Edison Electric Illuminating building. The building was used primarily for offices, however, several furnaces were associated with this facility. By the 1950s this area was used primarily for records storage. South of this building were several small dwellings on Boylston Street as well as a Club and Hotel (7,9,10,11).

- By 1909, the Edison building acquired the Hotel and built a new five story building for storage and a showroom. The new Edison building had generator rooms on the first and basement floors with offices above. The former boiler room is labelled as a stockroom. Batteries were stored in another building, south of the main one (9).

- By 1929, Edison Electric Illuminating occupied the remaining southern parcel, except for three structures located on the corner of Head Place and Boylston Street (10).

- By 1951, Boston Edison was labelled as the operators of the complex. The three structures mentioned above had been razed (11).

- By 1953, the Edison complex had been razed, except for the basement known as the Bumstead Court basement (BB1), as shown on Figure 2.

- By 1981, the Allright Parking management was operating the entire parcel as a parking lot (13).

Summary of Site Visit:

Current Conditions:

- Presently, the entire site is paved. An attendant booth is located at the northern end of the lot.

- The former south wall of the Tremont/Astor Theatre complex is a prominent elevated feature in the parking lot running east-west.

Evidence of Oil or Hazardous Materials:

- No evidence of oil or hazardous materials were observed except for remnants of fuel oil lines which were encountered in test pit TP1A excavated in the parking lot adjust to the Evans House (B9). Fuel oil odors were noticed but no visible fuel oil was encountered in the pipes.

# BUMSTEAD COURT BASEMENT (BB1)

Address: Below the parking lot behind the Franciscan building at 23-39 Boylston Street.

History:

- The Bumstead Court basement is a remnant of the Boston Edison complex which was razed in the 1950's, see Allright Parking (P4) historical description.
- Presently, the basement is accessible, but unused.

Summary of Site Visit:

Current Conditions:

- This irregularly-shaped basement is no longer used and in poor condition.
- It is accessible from the 11-story brick and concrete building, the Franciscan House, at 23-39 Boylston Street.
- The basement can be divided into three areas: the entrance room, the main room, and the side room.
- The entrance room is approximately 15 ft. long and has a low ceiling. Several utility lines run along the eastern wall. A number of signs were stored in this area.
- The main room was accessed by stairs leading down from the entrance room and had approximately 1 ft. of water in it. Two large abandoned furnaces were located in the center of the room. Sediment on the floor appeared black and oil stained. A 10,000 gallon oil tank, in a fully enclosed cinderblock bunker, was located along the north wall. A water tank was located by the stairs leading down to the main room from the entrance room. To the east is an electrical board. To the north of the electrical board, along the east wall is a fire door which leads to the side room. A 5 gallon bucket with fuel oil in it had been knocked over, resulting in scattered "blobs" of black fuel oil floating on the water.

- The side room contained some old pipes and litter such as bottles, cans, and clothing. Several bags of flyash or furnace soot were also present. A circular grate allowing daylight was observed in the roof. The floor was dry.

Heating and Cooling System:

- The main room was at one time the furnace room for former structures, but is no longer active.

Sumps or Other Subgrade Features:

- A sump was present in the main room by the entrance to the side room. The sump pump motor was on, but did not appear to be working.

Evidence of Oil or Hazardous Materials:

- Scattered blobs of petroleum product and oil-stained sediment were observed on the water and in the sediment in the main room.

1423t

BOSTON REDEVELOPMENT AUTHORITY (BRA) PARCEL (P5)

Address: The parking lot located in the northwest corner of Boylston and Washington Streets. Bordered by Bumstead Court to the west and the State Theatre to the north.

History:

- By 1885, the parcel was occupied by several structures. Site usage included a bindery, restaurant, stained glass shop, bleaching, and a hotel. At this time, Boylston Street was further west than its present configuration (5).

- By 1895, the parcel was predominantly occupied by the Hotel Reynolds which included several structures. A furnace was located in the basement (7).

- By 1909 until 1929, the western portion of the parcel was occupied by the Hotel Brester/Hotel Arthur, which included several structures (9,15).

- By 1951, the site still remained unchanged physically, except the Hotel was now labelled Hotel Paramount (11).

- By the late 1960s, the buildings on this parcel were razed and Boylston Street was moved to the north forming the southern boundary of this parcel. A subway station entrance was constructed on the southeast corner of the parcel.

Summary of Site Visit:

Current Conditions:

- The parking lot located on the western portion of the BRA Parcel is paved and includes a small attendant's booth. At the eastern end of the parcel is the MBTA Kiosk, the Boylston Street Entrance to the Orange Line.

Evidence of Oil or Hazardous Materials:

- No evidence of oil or hazardous materials was observed. However, it is not known how the former buildings on this parcel were heated.

1423t

# Appendix B

# APPENDIX B

## Test Pit Logs

Haley & Aldrich, Inc.

# TEST PIT REPORT

TEST PIT NO. 1

FILE NO. 05746-02

PROJECT COMMONWEALTH CENTER

LOCATION BOSTON, MASSACHUSETTS

CLIENT WEIDLINGER ASSOCIATES/F.D. RICH CO.

CONTRACTOR USED JEREMIAH SULLIVAN & SONS

EQUIPMENT USED DYNAHOE BACKHOE

LOCATION South side of 174-175 Tremont Street

ELEVATION 38.0 (BCB)

EXPLORATION DATE 4-7 Aug. 1989

H&A REPD. Burke/D. Adams

| SCALE IN FEET | STRATA CHANGE | SAMPLE NUMBER | SAMPLE DEPTH RANGE | DESCRIPTION OF MATERIALS | REMARKS |
|---|---|---|---|---|---|
| | 0.3 | | 0.3 | Bit. Conc. Pavement | Background HNU = 0.1-0.3 ppm |
| 2 | | | | Miscellaneous Fill - Construction debris i.e.: bricks, pieces of concrete (10"X10"), pieces of copper piping, pieces of sheet metal, pieces of bit. conc. | HNU = 0.1-0.3 ppm No odor |
| 4 | | S1 & S2 | | | |
| 6 | | | | Light gray fine to medium gravelly SAND with some silt | HNU = 0.1-0.3 ppm No odor |
| 8 | | | | | HNU = 0.1-0.3 ppm No odor |
| | 8.6 | | 9.6 | Very dense gravelly SAND | |
| 10 | | | | Bottom of Excavation at 9.6 ft. | |
| 12 | | | | | |

| WATER LEVEL | | |
|---|---|---|
| DATE | TIME* (hours) | DEPTH (feet) |
| 7 Aug.89 | - | N.E. |
| | | |
| | | |

*AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH 14.5 FEET WIDTH 6.5 FEET

BOULDERS

8" TO 18" DIAMETER - (number) - VOLUME - (cu ft)

OVER 18" DIAMETER - (number) - VOLUME - (cu ft)

SUMMARY

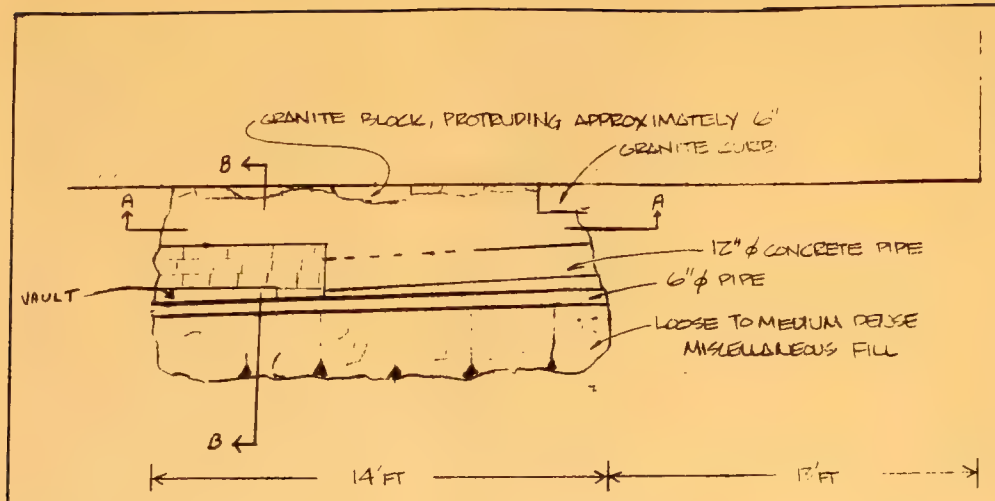
DEPTH 9.6 ft.

JAR SAMPLES 2

BAG SAMPLES -

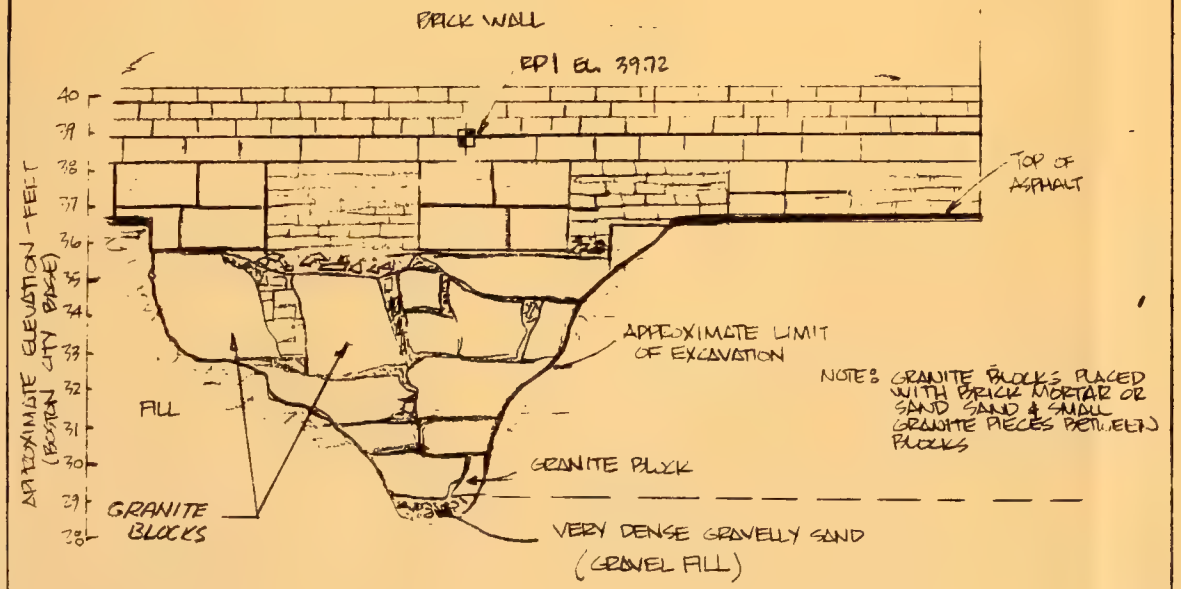
WATER LEVEL N.E.

Form 24 Rev. Mar. 88



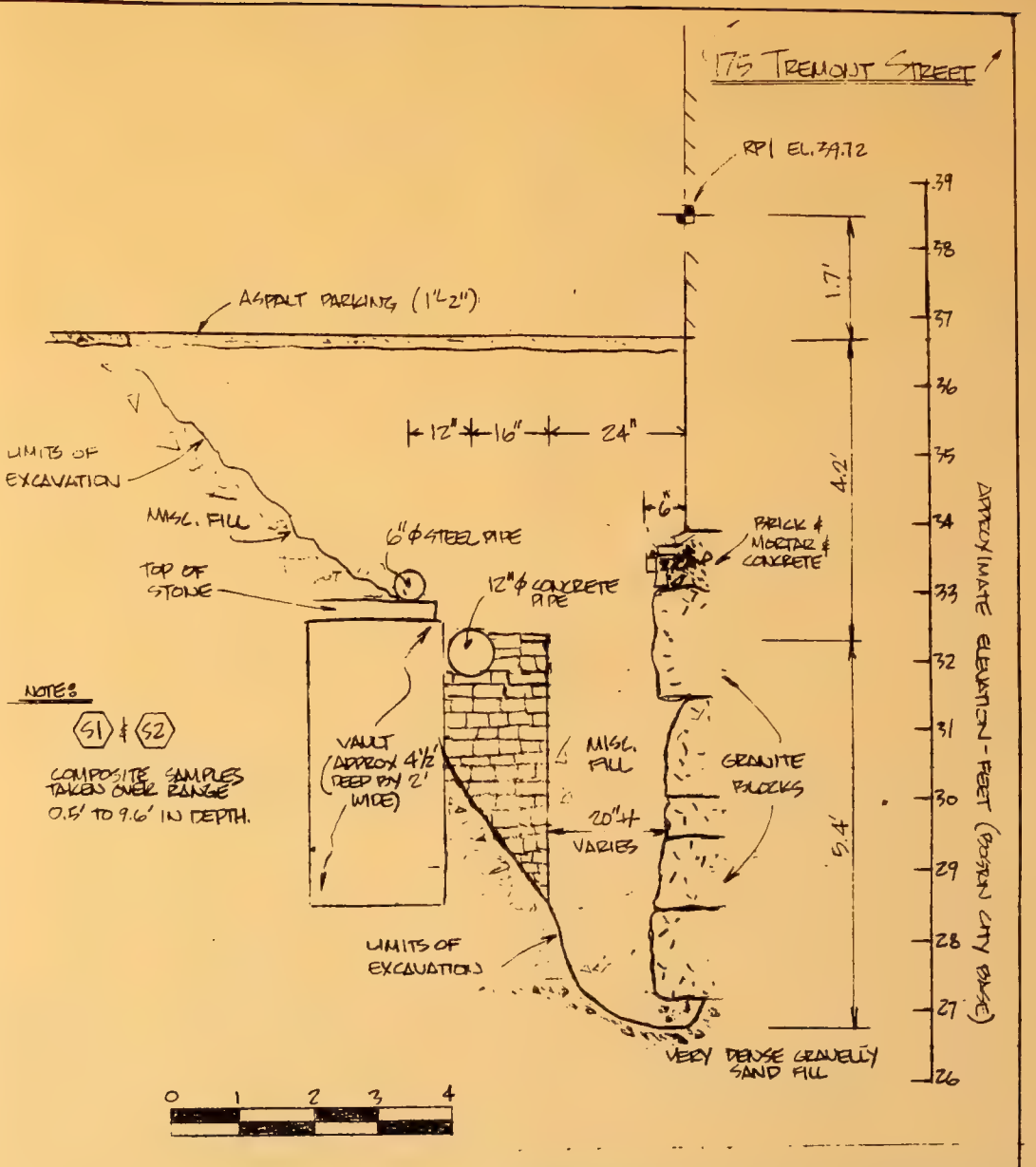

PLAN VIEW

SCALE 1"= 4'




SECTION A-A

SCALE 1"=4'




LEGEND

S1 APPROX. SAMPLING LOCATION

REFERENCE POINT

Haley & Aldrich, Inc.

Consulting Geotechnical Engineers, Geologists and Hydrogeologists

COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

TEST PIT EXCAVATION NO. 1

SCALE: AS SHOWN

SEPTEMBER 1988

5716-02

Haley & Aldrich, Inc.

# TEST PIT REPORT

TEST PIT NO. 1A

FILE NO. 05746-02

PROJECT COMMONWEALTH CENTER

LOCATION BOSTON, MASSACHUSETTS

CLIENT WEIDLINGER ASSOCIATES/F.D. RICH CO.

CONTRACTOR USED JEREMIAH SULLIVAN & SONS

EQUIPMENT USED DYNAHOE BACKHOE

LOCATION East side of 174-175 Tremont Street

ELEVATION 36.8 (BCB)

EXPLORATION DATE 7-8 Aug. 1989

H&A REP D. Adams

| SCALE IN FEET | STRATA CHANGE | SAMPLE NUMBER | SAMPLE DEPTH RANGE | DESCRIPTION OF MATERIALS | REMARKS |
|---|---|---|---|---|---|
| | 0.5 | | 0.5 | Bit. Conc. Pavement & Concrete Mortar | HNU Background = 0.6 ppm |
| 2 | | | | Miscellaneous Fill, Construction debris, i.e.: masonry bricks, pieces of mortar | HNU=0.6 ppm<br>No odor |
| | | S2 | 3.5 | Fine to medium gravelly SAND with some silt and cobbles | HNU=0.6 ppm<br>No odor |
| 4 | | S1 | | | |
| 6 | | | | | HNU=0.6 ppm<br>No odor<br><br>HNU=0.6 ppm<br>No odor |
| | 7.5 | | 8.0 | Brown fine to coarse gravelly SAND with trace silt | |
| 8 | | | | Bottom of Excavation at 8.1 ft. | |
| 10 | | | | | |
| 12 | | | | | |

## WATER LEVEL

| DATE | TIME* (hours) | DEPTH (feet) |
|---|---|---|
| 8 Aug 89 | - | N.E. |
| | | |
| | | |

*AFTER COMPLETED

## APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH 12 FEET WIDTH 4 FEET

BOULDERS

8" TO 18" DIAMETER - (number) = VOLUME - (cu ft)

OVER 18" DIAMETER - (number) = VOLUME - (cu ft)

## SUMMARY

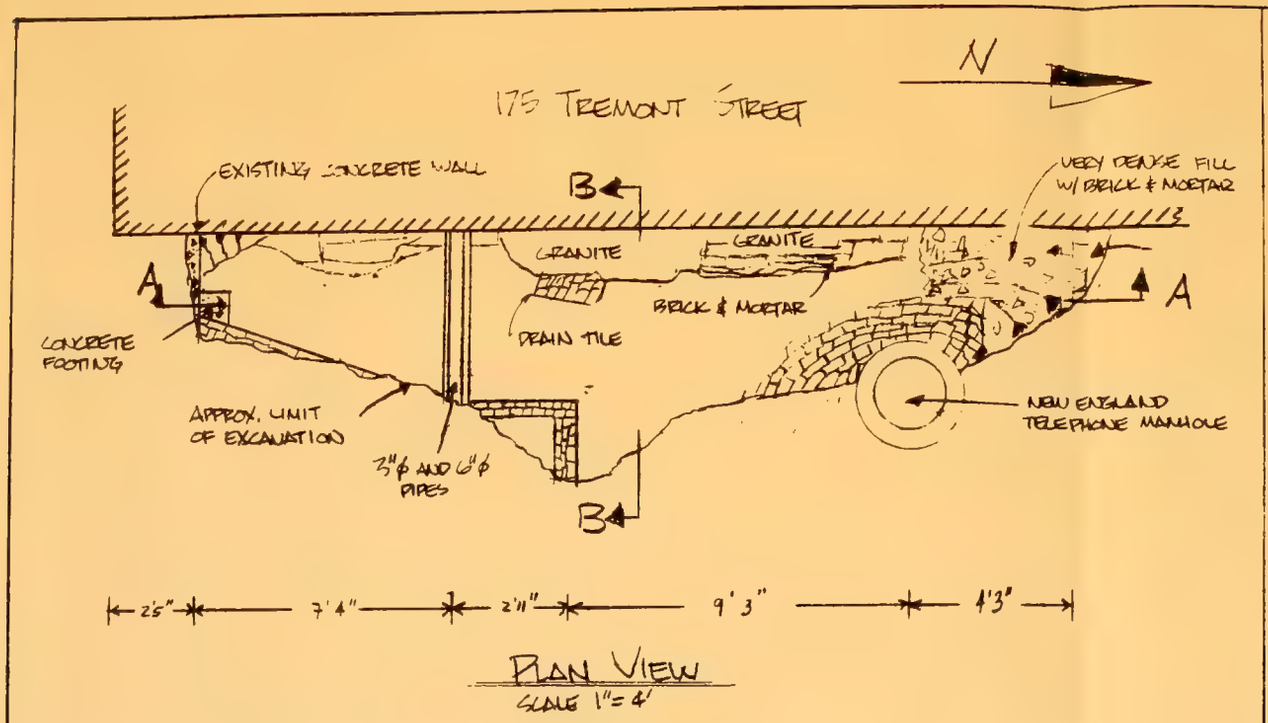
DEPTH 8.1 ft.

JAR SAMPLES 2

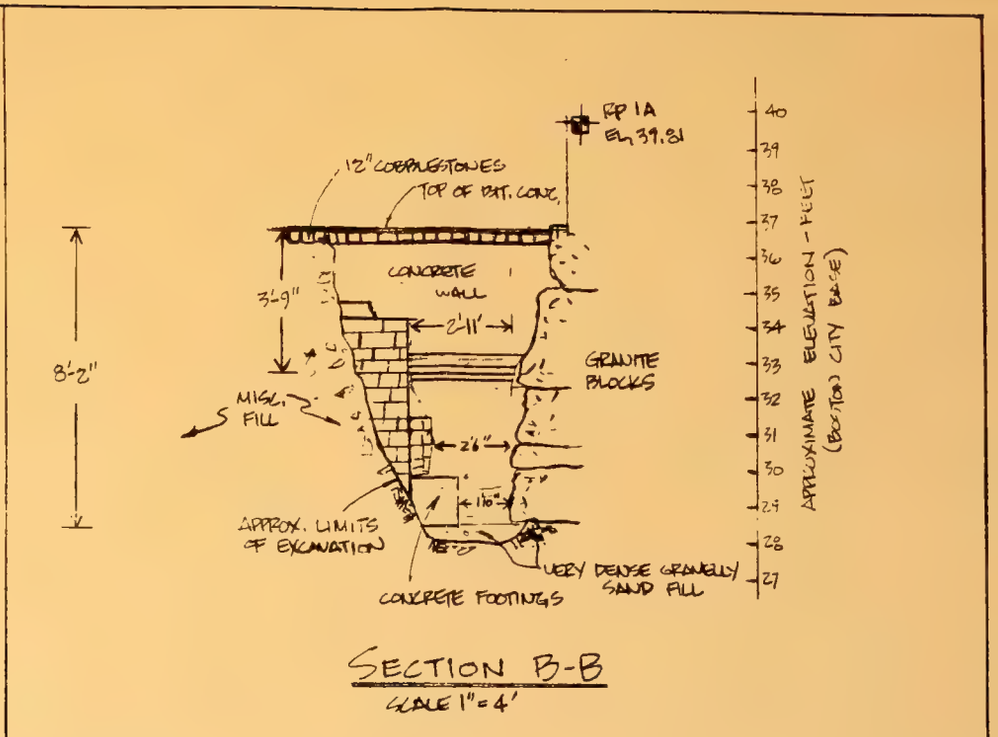
BAG SAMPLES -

WATER LEVEL N.E.

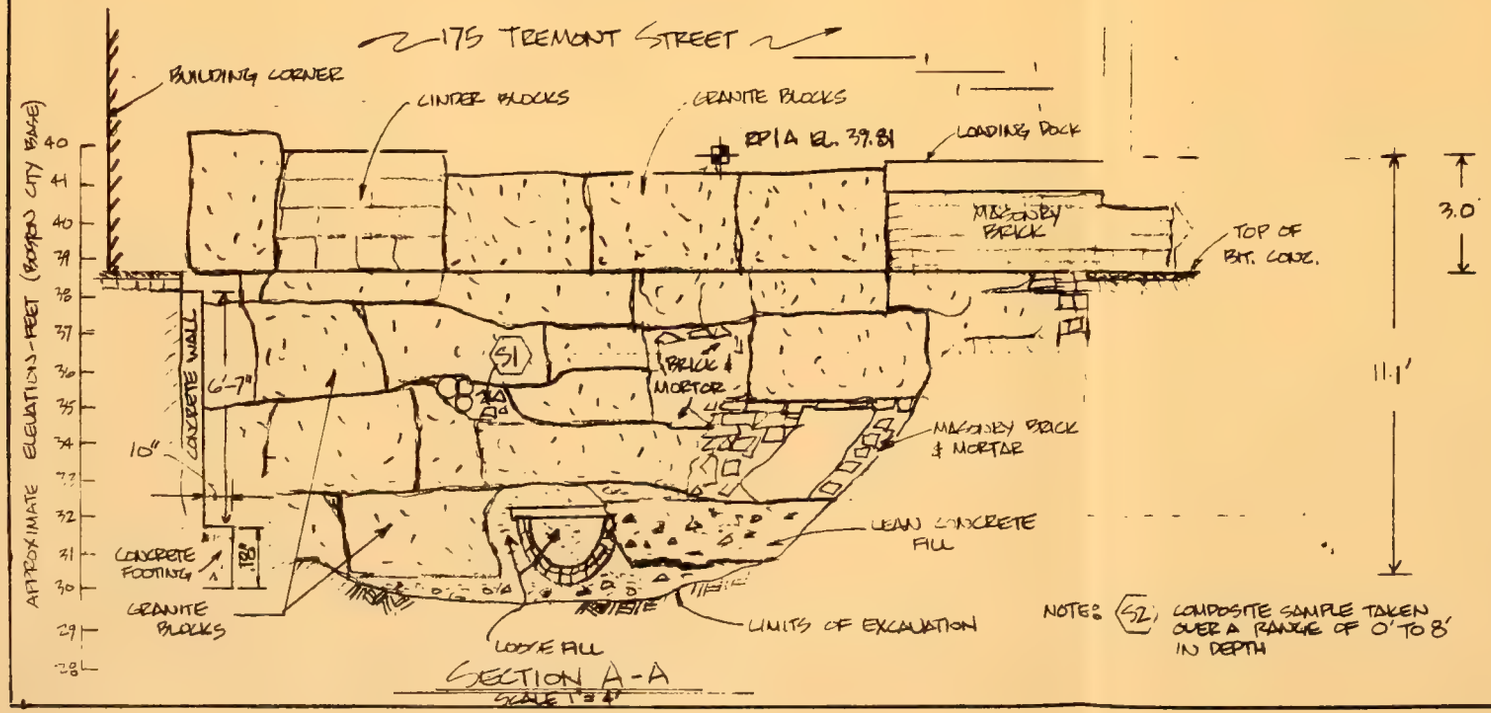
Form 24 Rev. Mar. 88




PLAN VIEW
SCALE 1"=4'




SECTION B-B
SCALE 1"=4'




SECTION A-A
SCALE 1"=4'

NOTE: (S2) COMPOSITE SAMPLE TAKEN OVER A RANGE OF 0' TO 8' IN DEPTH

Haley & Aldrich, Inc.
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

**TEST PIT EXCAVATION NO. 1A**

SCALE: AS SHOWN

SEPTEMBER 1989

S-746-02

Haley & Aldrich, Inc.

# TEST PIT REPORT

TEST PIT NO. 1C

FILE NO. 05746-02

PROJECT COMMONWEALTH CENTER

LOCATION BOSTON, MASSACHUSETTS

CLIENT WEIDLINGER ASSOCIATES/F.D. RICH CO.

CONTRACTOR USED JEREMIAH SULLIVAN & SONS

EQUIPMENT USED DYNAHOE BACKHOE

LOCATION NE corner
174-175 Tremont St.

ELEVATION 35.9 (BCB)

EXPLORATION DATE 4 Aug. 89

H&A REP D. Burke

| SCALE IN FEET | STRATA CHANGE | SAMPLE NUMBER | SAMPLE DEPTH RANGE | DESCRIPTION OF MATERIALS | REMARKS |
|---|---|---|---|---|---|
| | 0.2 | | | Bit. Conc. Pavement | HNU = 0.5-0.6 ppm |
| | 1.0 | | | Steel H beams & concrete slab | |
| 2 | | | | | |
| | | | | | HNU = 0.5-0.6 ppm |
| 4 | | | | Hollow basement vault | 12" steam pipe @ 3'-7" inv. = 32.4 (BCB) |
| 6 | 6.1 | | | | |
| | 6.6 | | | Red brick & mortar floor slab | |
| | | | | Miscellaneous Fill - bricks, plastic bages, construction debris Light gray, fine to medium silty SAND | |
| 8 | | | 8.0 | | |
| | | S1 | | | |
| | 9.8 | | 10.0 | | |
| 10 | | S2 | 10 - 10.5 | Light brown, clean, fine SAND mediumly compacted | |
| | 11.0 | | | | |
| | | S3 | 11 - 11.5 | Light brown fine SAND with some SILT intermingling layers of gray SILT mediumly compacted | |
| 12 | | | | Bottom of Excavation at 11.5 ft. | |

**WATER LEVEL**

| DATE | TIME* (hours) | DEPTH (feet) |
|---|---|---|
| 4 Aug 89 | - | N.E. |
| | | |
| | | |

*AFTER COMPLETED

**APPROXIMATE PIT DIMENSIONS AT SURFACE**

LENGTH 8.5 FEET WIDTH 6 FEET

BOULDERS

8" TO 18" DIAMETER - = VOLUME -

OVER 18" DIAMETER - (number) = VOLUME - (cu ft)

**SUMMARY**

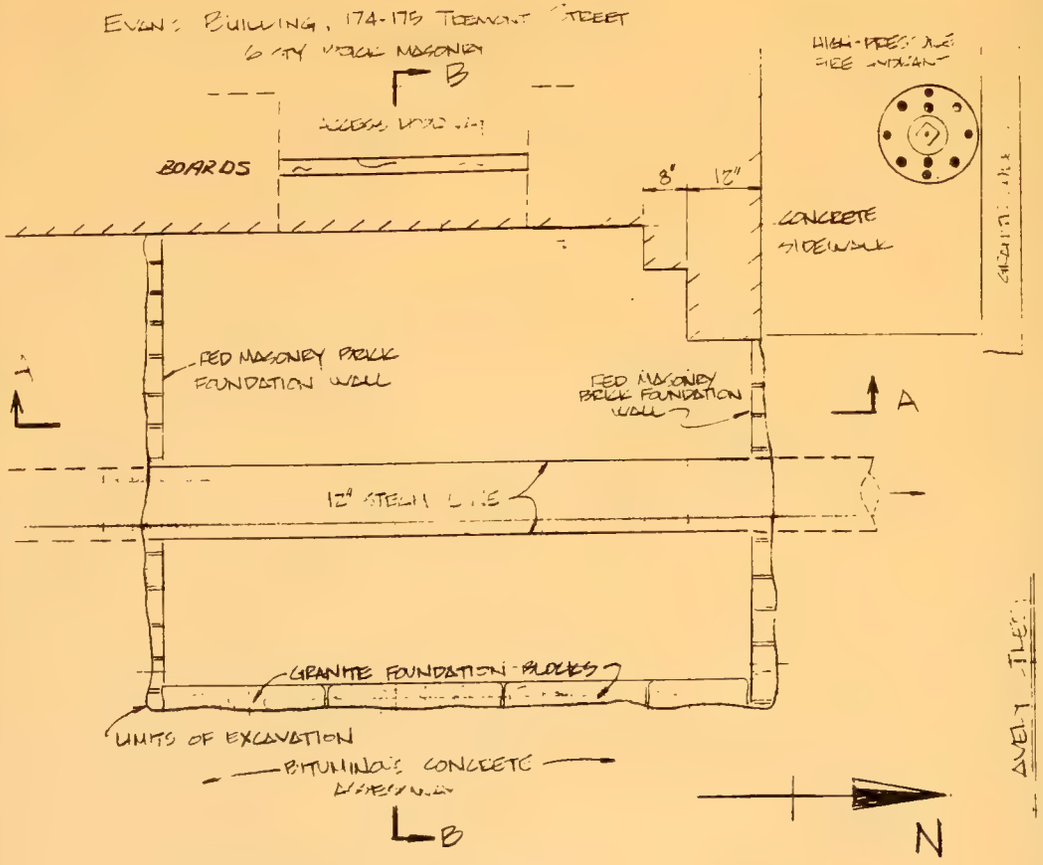
DEPTH 11.5 ft.

JAR SAMPLES 3

BAG SAMPLES -

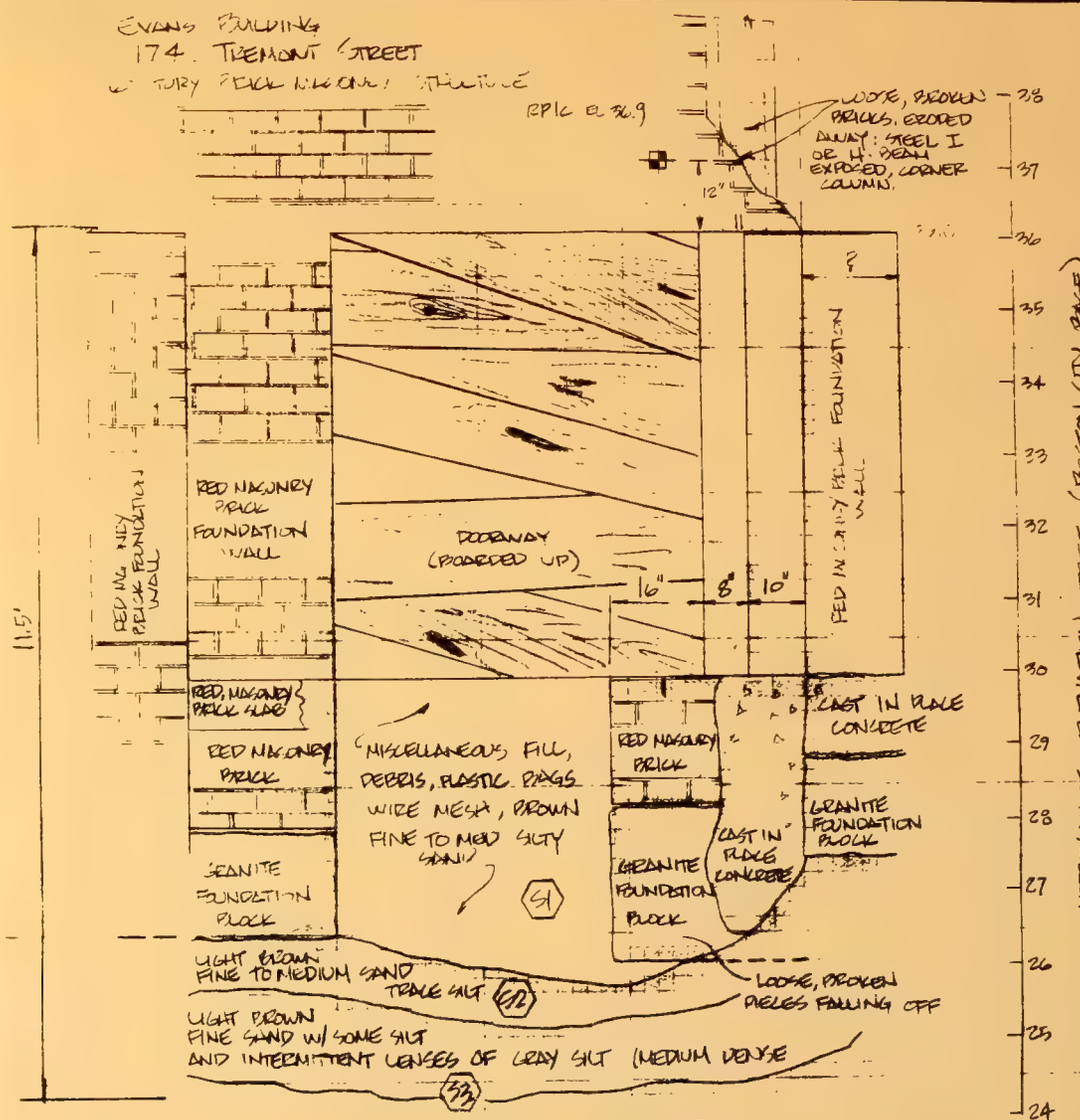
WATER LEVEL N.E.

Form 24 Rev. Mar. 88




PLAN VIEW - TEST PIT 1C

SCALE 1"=2'




SECTION A-A TEST PIT 1C

SCALE 1"=2'

0 1 2 3 4

LEGEND

S1 APPROX. SAMPLING LOCATION & NUMBER

REFERENCE POINT

Haley & Aldrich, Inc.
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

COMMONWEALTH CENTER
BOSTON MASSACHUSETTS

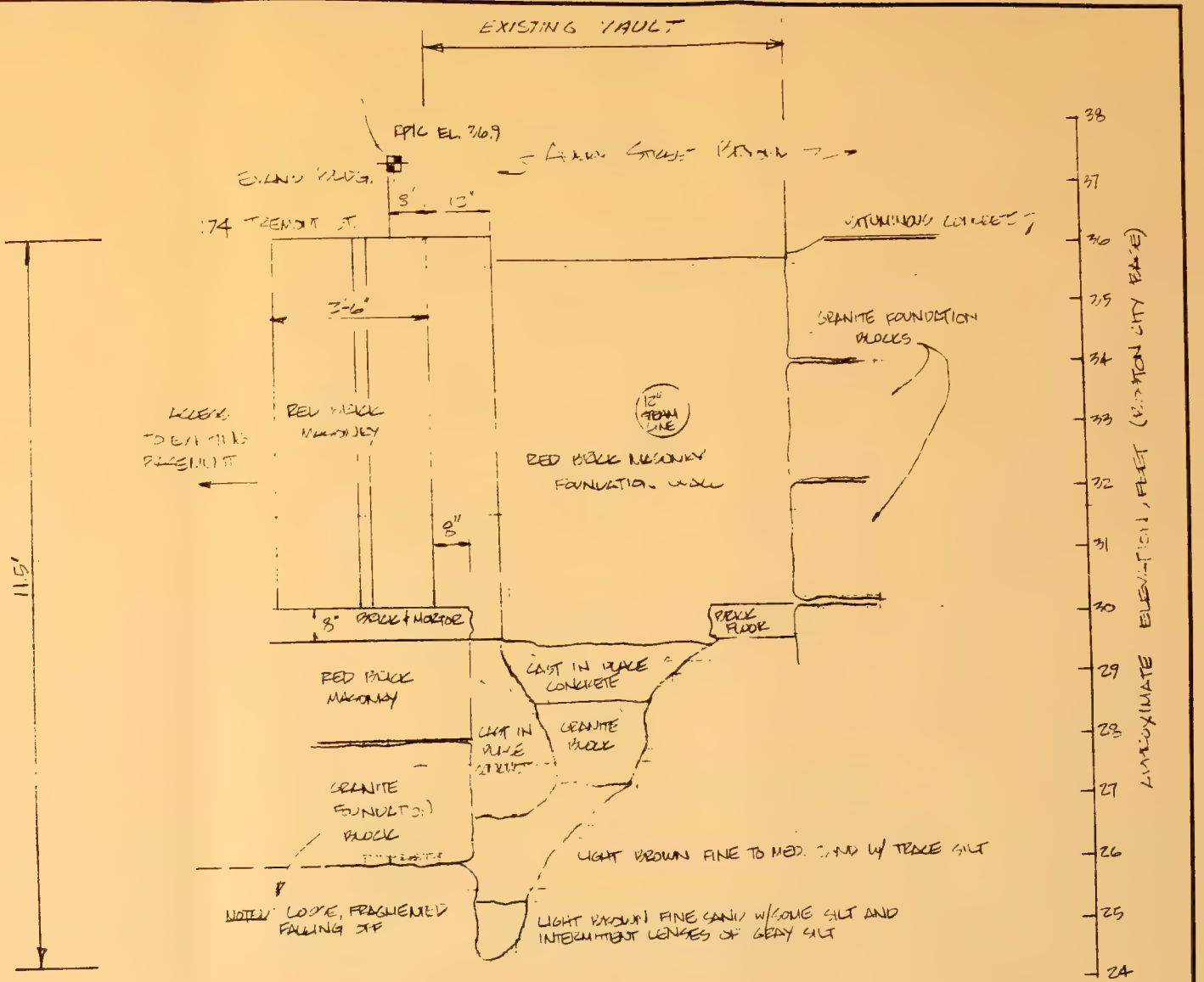
TEST PIT EXCAVATION NO. 1C

SCALE: AS SHOWN

SEPTEMBER 1989

FILE NO. 05746-02 B31

CHARRETTE




SECTION B-B TEST PIT 1C

SCALE 1"=2'

Haley & Aldrich, Inc.
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

COMMONWEALTH CENTER
BOSTON MASSACHUSETTS

TEST PIT EXCAVATION NO. 1C

SCALE: AS SHOWN

SEPTEMBER 1989

FILE NO. 05746-02 B30

CHARRETTE

Haley & Aldrich, Inc.

# TEST PIT REPORT

TEST PIT NO. 2
FILE NO. 05746-02

PROJECT COMMONWEALTH CENTER
LOCATION BOSTON, MASSACHUSETTS
CLIENT WEIDLINGER ASSOCIATES/F.D. RICH CO.
CONTRACTOR USED JEREMIAH SULLIVAN & SONS
EQUIPMENT USED DYNAHOE BACKHOE & HOE RAM

LOCATION NE corner
177 Boylston Street
ELEVATION 37.1 (BCB)
EXPLORATION DATE 18-19 July 1989
H&A REP D. Burke

| SCALE IN FEET | STRATA CHANGE | SAMPLE NUMBER | SAMPLE DEPTH RANGE | DESCRIPTION OF MATERIALS | REMARKS |
|---|---|---|---|---|---|
| | 0.3 | | | Bit. Conc. Pavement | Background HNU= 0.5-0.6 ppm |
| 2 | | | | Miscellaneous Fill<br>Building and construction debris, bricks, rebar, chunks (10"X10") of concrete, pieces of ceramic tile | No odor |
| 4 | | | | Fine to medium coarse silty SAND mediumly compacted | |
| | | S1 | 5 - 5.5 | Some voids 6"-10" in size between debris. Darker layer; fine to medium coarse black silty SAND with construction debris i.e., bricks, pipes, wire mesh | HNU = 0.6-0.7 ppm<br>No odor |
| 6 | | | | 10-20 gallon light duty water storage tank, radiator & heating duct, length of iron & copper pipe (5'-8') | Against foundation wall |
| 8 | 8.5 | | | | |
| | 8.9 | | | 4" concrete slab | |
| 10 | | | | Miscellaneous Fill<br>Brown fine to medium gravelly silty sand with few small cobbles and some construction debris, i.e., bricks, cast iron pipe | HNU = 0.5-0.6 ppm<br>No odor |
| 12 | | | | | |

**WATER LEVEL**

| DATE | TIME* (hours) | DEPTH (feet) |
|---|---|---|
| 19 Jul 89 | - | N.E. |

*AFTER COMPLETED

**APPROXIMATE PIT DIMENSIONS AT SURFACE**

LENGTH 13.5 FEET WIDTH 7 FEET

BOULDERS

8" TO 18" DIAMETER - (number) = VOLUME - (cu ft)

OVER 18" DIAMETER - (number) = VOLUME - (cu ft)

**SUMMARY**

DEPTH 14.1 ft.
JAR SAMPLES 1
BAG SAMPLES -
WATER LEVEL N.E.

Form 24 Rev. Mar. 88

Haley & Aldrich, Inc.

# TEST PIT REPORT

TEST PIT NO. 2 cont'd

FILE NO. 05746-02

PROJECT COMMONWEALTH CENTER

LOCATION BOSTON, MASSACHUSETTS

CLIENT WEIDLINGER ASSOCIATES/F.D. RICH CO.

CONTRACTOR USED JEREMIAH SULLIVAN & SONS

EQUIPMENT USED DYNAHOE BACKHOE & HOE RAM

LOCATION NE Corner
177 Boylston Street

ELEVATION 37.1 (BCB)

EXPLORATION DATE 18-19 July 1989

H&A REP D. Burke

| SCALE IN FEET | STRATA CHANGE | SAMPLE NUMBER | SAMPLE DEPTH RANGE | DESCRIPTION OF MATERIALS | REMARKS |
|---|---|---|---|---|---|
| 12 | | | | Miscellaneous Fill<br><br>Brown fine to medium gravelly silty SAND with few small cobbles and construction debris. | HNU = 0.5-0.6 ppm<br>No odor |
| 14 | | | | Bottom of Excavation at 14.1 ft. | |

WATER LEVEL

| DATE | TIME* (hours) | DEPTH (feet) |
|---|---|---|
| 19 Jul 89 | - | N.E. |

*AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH 13.5 FEET WIDTH 7 FEET

BOULDERS

8" TO 18" DIAMETER - (number) = VOLUME - (cu ft)

OVER 18" DIAMETER - (number) = VOLUME - (cu ft)

SUMMARY

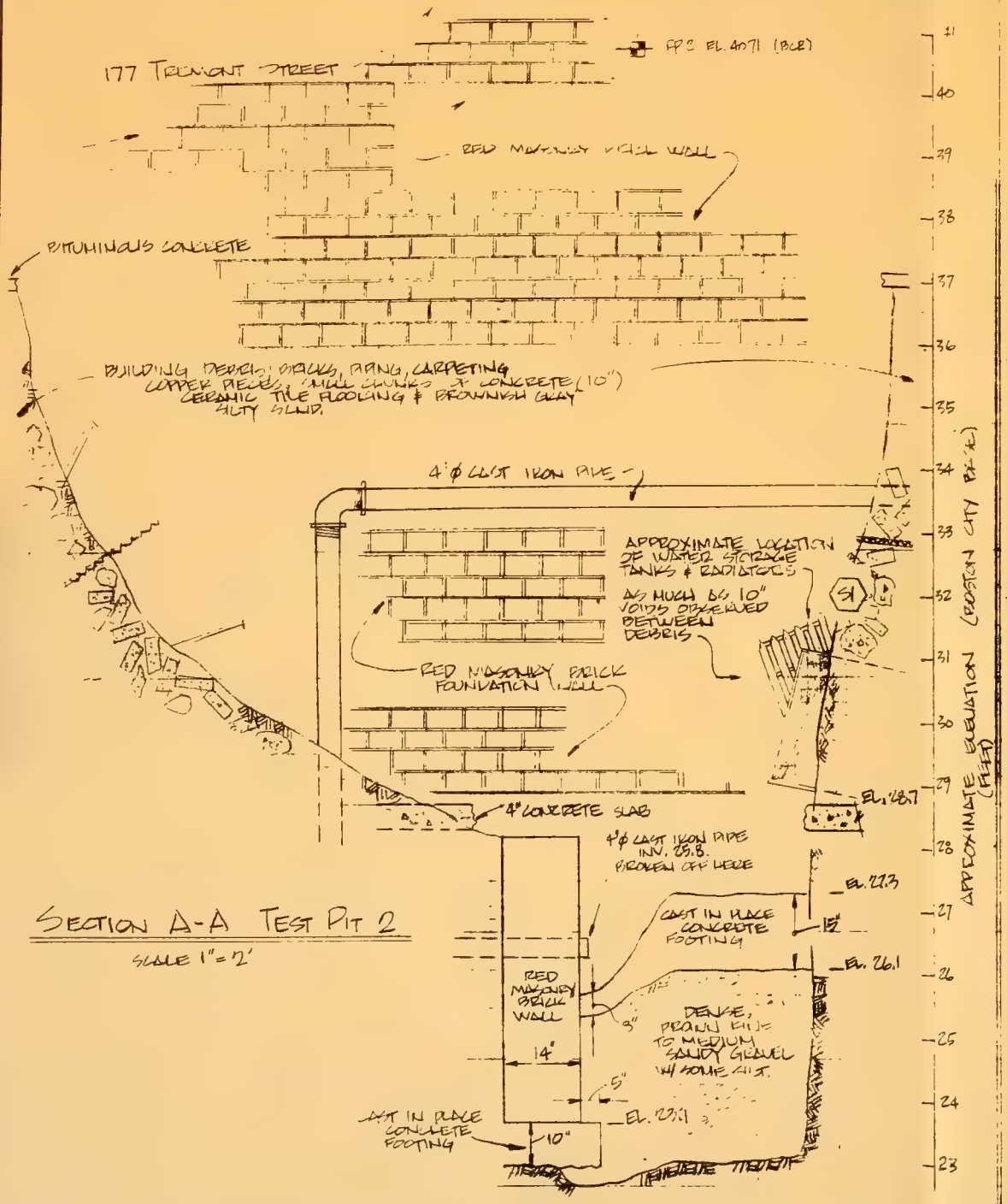
DEPTH 14.1 ft.

JAR SAMPLES 1

BAG SAMPLES -

WATER LEVEL -

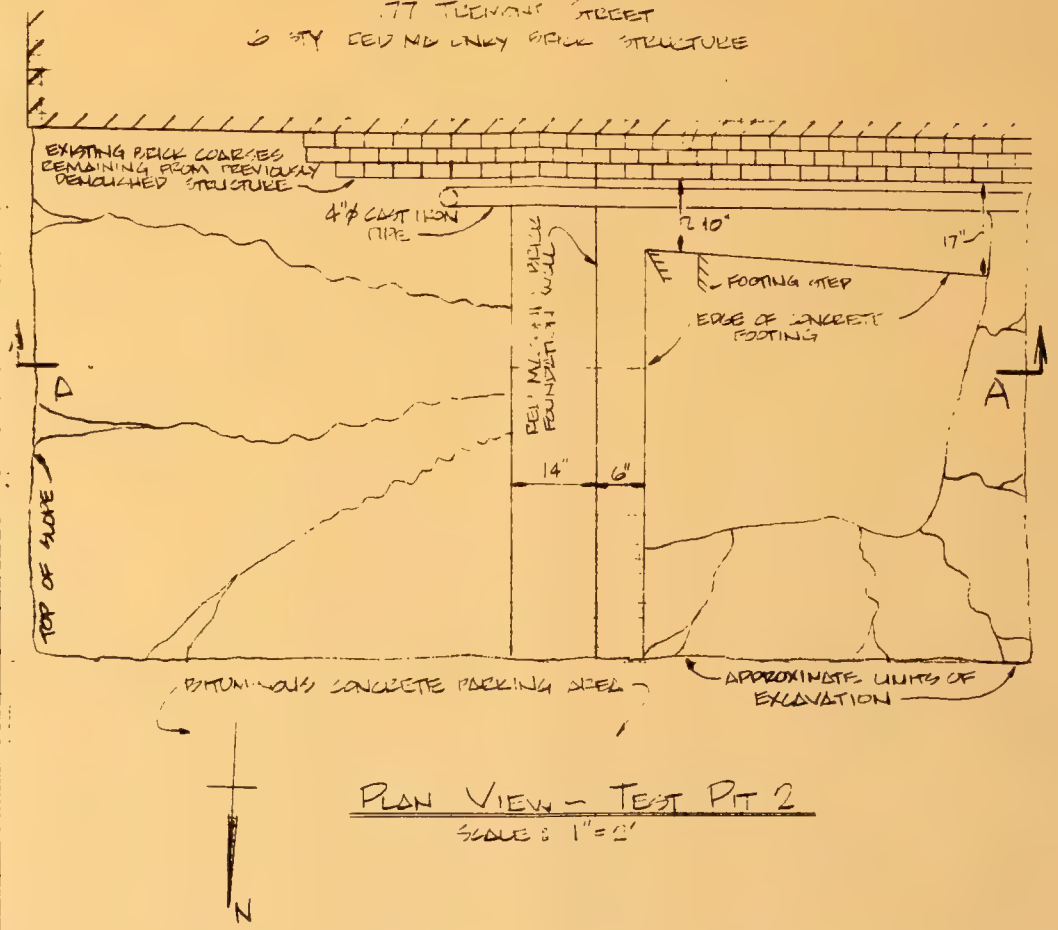
Form 24 Rev. Mar. 88




## SECTION A-A TEST PIT 2

SCALE 1"=2'

ASSISTED SYNAGOGUES OF GREATER BOSTON
177 TREMONT STREET
6 STY RED MASONRY BRICK STRUCTURE




## PLAN VIEW – TEST PIT 2

SCALE: 1"=2'

0 1 2 3 4

LEGEND

S1 APPROX. SAMPLING LOCATION & NUMBER

REFERENCE POINT

Haley & Aldrich, Inc.
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

**TEST PIT EXCAVATION NO. 2**

SCALE: AS SHOWN

SEPTEMBER 1989

FILE NO. 05746-02 B25

CHARRETTE

Haley & Aldrich, Inc.

# TEST PIT REPORT

TEST PIT NO. 3

FILE NO. 05746-02

PROJECT COMMONWEALTH CENTER

LOCATION BOSTON, MASSACHUSETTS

CLIENT WEIDLINGER ASSOCIATES/F.D. RICH CO.

CONTRACTOR USED JEREMIAH SULLIVAN & SONS

EQUIPMENT USED DYNAHOE BACKHOE

LOCATION North side of 27 Boylston Street

ELEVATION 32.0 (BCB)

EXPLORATION DATE 18 July 89

H&A REP D. Burke

| SCALE IN FEET | STRATA CHANGE | SAMPLE NUMBER | SAMPLE DEPTH RANGE | DESCRIPTION OF MATERIALS | REMARKS |
|---|---|---|---|---|---|
| | 0.7 | | | Concrete/Cobblestone roadway | HNU Background = 0.5-0.6 ppm |
| | 0.9 | | | Brown medium to fine SAND | |
| | 1.6 | | | Concrete slab; Steel I Beams | |
| 2 | | | | Underground basement encountered | HNU = 0.5-0.6 ppm No odor |
| | | | | Bottom of Excavation at 2.0 ft. | |

**WATER LEVEL**

| DATE | TIME* (hours) | DEPTH (feet) |
|---|---|---|
| 18 Jul 89 | - | N.E. |

*AFTER COMPLETED

**APPROXIMATE PIT DIMENSIONS AT SURFACE**

LENGTH 10 FEET WIDTH 7 FEET

BOULDERS

8" TO 18" DIAMETER - (number) = VOLUME - (cu ft)

OVER 18" DIAMETER - (number) = VOLUME - (cu ft)

**SUMMARY**

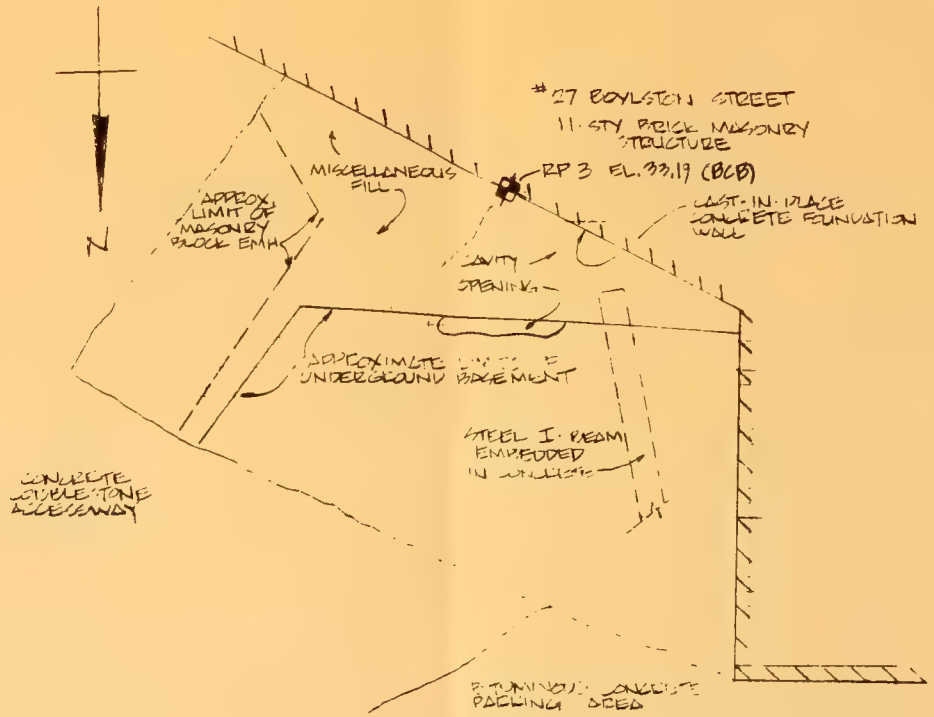
DEPTH 2.0 ft.

JAR SAMPLES -

BAG SAMPLES -

WATER LEVEL N.E.

Form 24 Rev. Mar. 88




PLAN VIEW - TEST PIT 3

SCALE: 1"=2'

0 1 2 3 4

LEGEND

- (S1) APPROX. SAMPLING LOCATION & NUMBER
- REFERENCE POINT
- BOTTOM OF EXCAVATION

Haley & Aldrich, Inc.
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

TEST PIT EXCAVATION NO. 3

SCALE: AS SHOWN

SEPTEMBER 1989

FILE NO. 05746-02 B26

Haley & Aldrich, Inc.

# TEST PIT REPORT

TEST PIT NO. 4
FILE NO. 05746-02

PROJECT COMMONWEALTH CENTER
LOCATION BOSTON, MASSACHUSETTS
CLIENT WEIDLINGER ASSOCIATES/F.D. RICH CO.
CONTRACTOR USED JEREMIAH SULLIVAN & SONS
EQUIPMENT USED DYNAHOE BACKHOE

LOCATION West side of MBTA orange line kiosk
ELEVATION 25.1 ft.(BCB)
EXPLORATION DATE 9-10 Aug. 1989
H&A REP D. Adams

| SCALE IN FEET | STRATA CHANGE | SAMPLE NUMBER | SAMPLE DEPTH RANGE | DESCRIPTION OF MATERIALS | REMARKS |
|---|---|---|---|---|---|
| | 0.5 | | | Brick & Mortar sidewalk | This material was very clean obviously placed fill. |
| | 1.2 | | | Concrete sidewalk | |
| 2 | | | | Medium dense brown coarse to fine gravelly SAND | |
| | | | | (FILL) | |
| 4 | | | | | |
| 6 | | | | | |
| 8 | | | | | |
| 10 | 10.3 | | | | |
| | | S1 | 11.0 | Loose to medium dense gray silty SAND, with cobbles, bricks, pipe, wires, etc. (MISC. FILL) | Petroleum odor at 11.0 ft. HNU readings taken at soil in bucket indicated 3 to 6 ppm. Sample obtained @ 11.0 ft. Sample taken of soil in bucket. |
| 12 | | | | Bottom of Excavation at 11.2 ft. | |

| WATER LEVEL | | |
|---|---|---|
| DATE | TIME* (hours) | DEPTH (feet) |
| 10 Aug 89 | - | N.E. |
| | | |
| | | |

*AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH 13.5 FEET WIDTH 5 FEET

BOULDERS

8" TO 18" DIAMETER - (number) = VOLUME - (cu ft)

OVER 18" DIAMETER - (number) = VOLUME - (cu ft)

SUMMARY

DEPTH 11.2 ft.
JAR SAMPLES 1
BAG SAMPLES -
WATER LEVEL N.E.

Form 24 Rev. Mar. 88

Haley & Aldrich, Inc.

# TEST PIT REPORT

TEST PIT NO. 8

FILE NO. 05746-02

PROJECT COMMONWEALTH CENTER

LOCATION BOSTON, MASSACHUSETTS

CLIENT WEIDLINGER ASSOCIATES/F.D. RICH CO.

CONTRACTOR USED JEREMIAH SULLIVAN & SONS

EQUIPMENT USED DYNAMIC BACKHOE

LOCATION See corner of Allright Parking @ Mason St.

ELEVATION 31.1 (BCB)

EXPLORATION DATE 20-21 July 1989

H&A REP D. Burke

| SCALE IN FEET | STRATA CHANGE | SAMPLE NUMBER | SAMPLE DEPTH RANGE | DESCRIPTION OF MATERIALS | REMARKS |
|---|---|---|---|---|---|
| | 0.5 | | | Bit. Conc. Pavement | Background HNU = 0.6 ppm |
| 2 | | | | Miscellaneous Fill<br>Brown to black fine to medium silty SAND with construction debris i.e.: bricks, pieces of concrete (10"X10"), rebar pieces of metal, copper piping | No odor<br>HNU = 0.6-0.7 ppm |
| 4 | | S1 | 4 - 4.3 | Marble panel at south side wall of pit against foundation wall. White fibrous, pastey insulation (ASBESTOS) discovered between marble panel and foundation wall. | |
| 6 | | | | | |
| 8 | | | | | |
| 10 | | | | | |
| | 11.6 | | | Light gray silty clay, very stiff yellow silt, densely compacted | |
| 12 | | | | Bottom of Excavation at 12.0 ft. | |

**WATER LEVEL**

| DATE | TIME* (hours) | DEPTH (feet) |
|---|---|---|
| 21 Jul 89 | - | N.E. |
| | | |
| | | |

*AFTER COMPLETED

**APPROXIMATE PIT DIMENSIONS AT SURFACE**

LENGTH 10 FEET WIDTH 8.5 FEET

BOULDERS

8" TO 18" DIAMETER - (number) = VOLUME - (cu ft)

OVER 18" DIAMETER - (number) = VOLUME - (cu ft)

**SUMMARY**

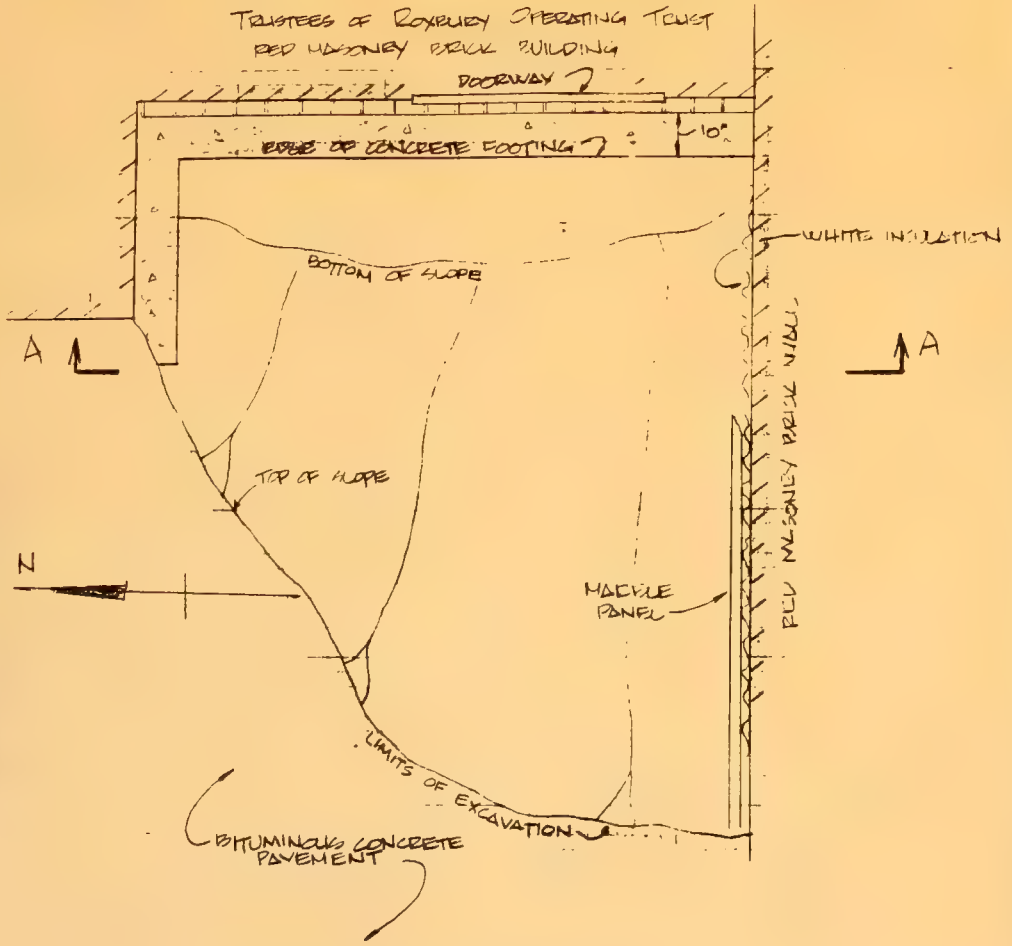
DEPTH 12.0 ft.

JAR SAMPLES 1

BAG SAMPLES -

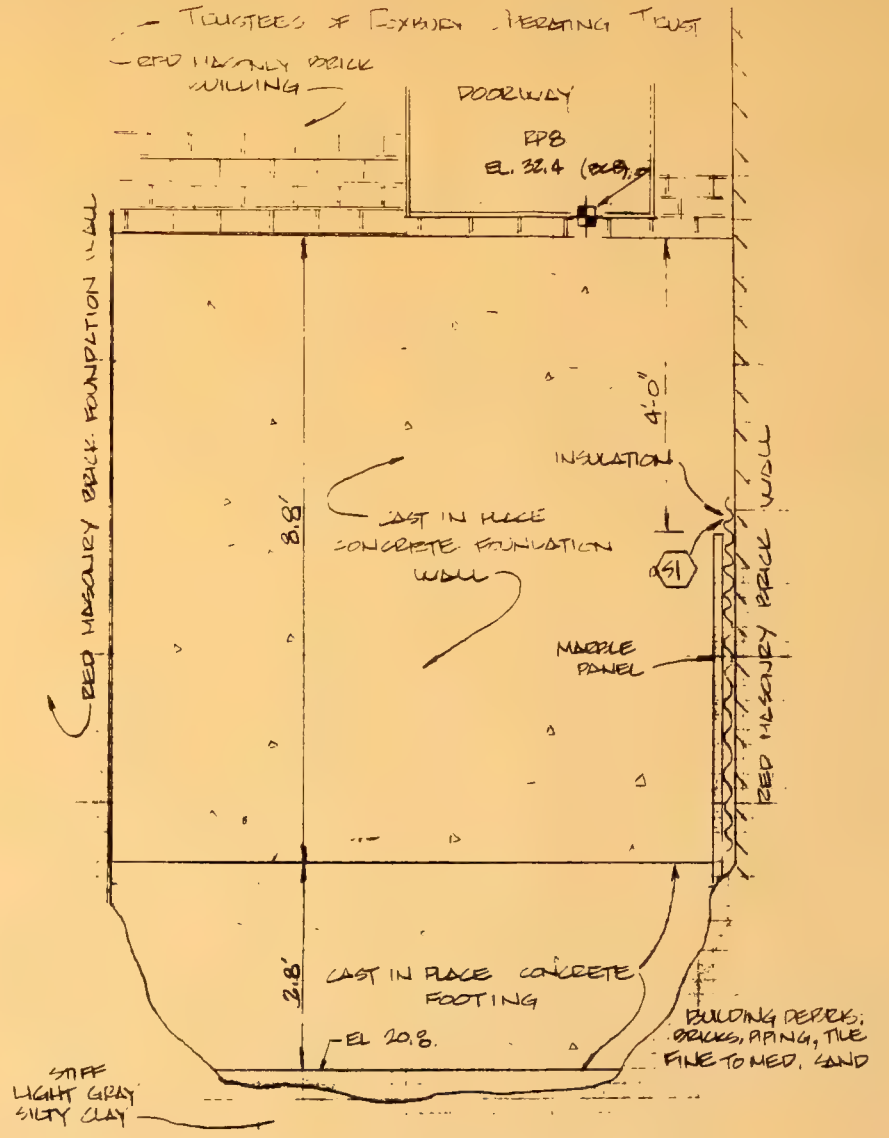
WATER LEVEL N.E.

Form 24 Rev. Mo. 88



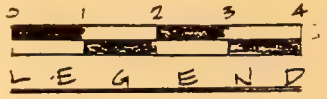

PLAN VIEW - TEST PIT 3

SCALE: 1"=2'




SECTION A-A - TEST PIT 3

SCALE: 1"=2'




Haley & Aldrich, Inc.
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

**TEST PIT EXCAVATION NO. 8**

SCALE: AS SHOWN

SEPTEMBER 1999

FILE NO. 05746-02 B28

CHARRETTE

Haley & Aldrich, Inc.

# TEST PIT REPORT

TEST PIT NO. 9

FILE NO. 05746-02

PROJECT COMMONWEALTH CENTER

LOCATION BOSTON, MASSACHUSETTS

CLIENT WEIDLINGER ASSOCIATES/F.D. RICH CO.

CONTRACTOR USED JEREMIAH SULLIVAN & SONS

EQUIPMENT USED DYNAMIC BACKHOE

LOCATION NE corner All-right Parking @ Mason St.

ELEVATION 31.4 (BCB)

EXPLORATION DATE 19-20 July 1989

H&A REP D. Burke

| SCALE IN FEET | STRATA CHANGE | SAMPLE NUMBER | SAMPLE DEPTH RANGE | DESCRIPTION OF MATERIALS | REMARKS |
|---|---|---|---|---|---|
| | | | | Bit. Conc. Pavement | Background HNU= 0.6-0.7 ppm |
| | 1.3 | | | | |
| 2 | | | | Miscellaneous Fill<br>Building Debris i.e.: bricks, piping, wire mesh, pieces of copper piping 12 in. pieces of ceramic tile flooring<br>Fine to medium coarse silty SAND | HNU = 0.7 ppm<br>No odor |
| 4 | | | | | |
| | | S1 | 5.5 | Layer of black asphalt roofing material | |
| 6 | | | | Hollow cell masonry bricks & misc. building rubble | |
| 8 | | | | | |
| | 8.2 | | | | |
| | 8.5 | | | 3"-4" concrete slab | No odor<br>HNU = 0.6 ppm |
| | | | | Light gray very stiff clay (on east sidewall of pit) | |
| 10 | | | | Yellow silt, densely compacted (on north sidewall of pit) | |
| 12 | | | | Bottom of Excavavation at 11.8 ft. | |

| WATER LEVEL | | |
|---|---|---|
| DATE | TIME* (hours) | DEPTH (feet) |
| 20 Jul 89 | - | N.E. |

*AFTER COMPLETED

APPROXIMATE PIT DIMENSIONS AT SURFACE

LENGTH 11 FEET WIDTH 8 FEET

BOULDERS

8" TO 18" DIAMETER - (number) = VOLUME - (cu ft)

OVER 18" DIAMETER - (number) = VOLUME - (cu ft)

SUMMARY

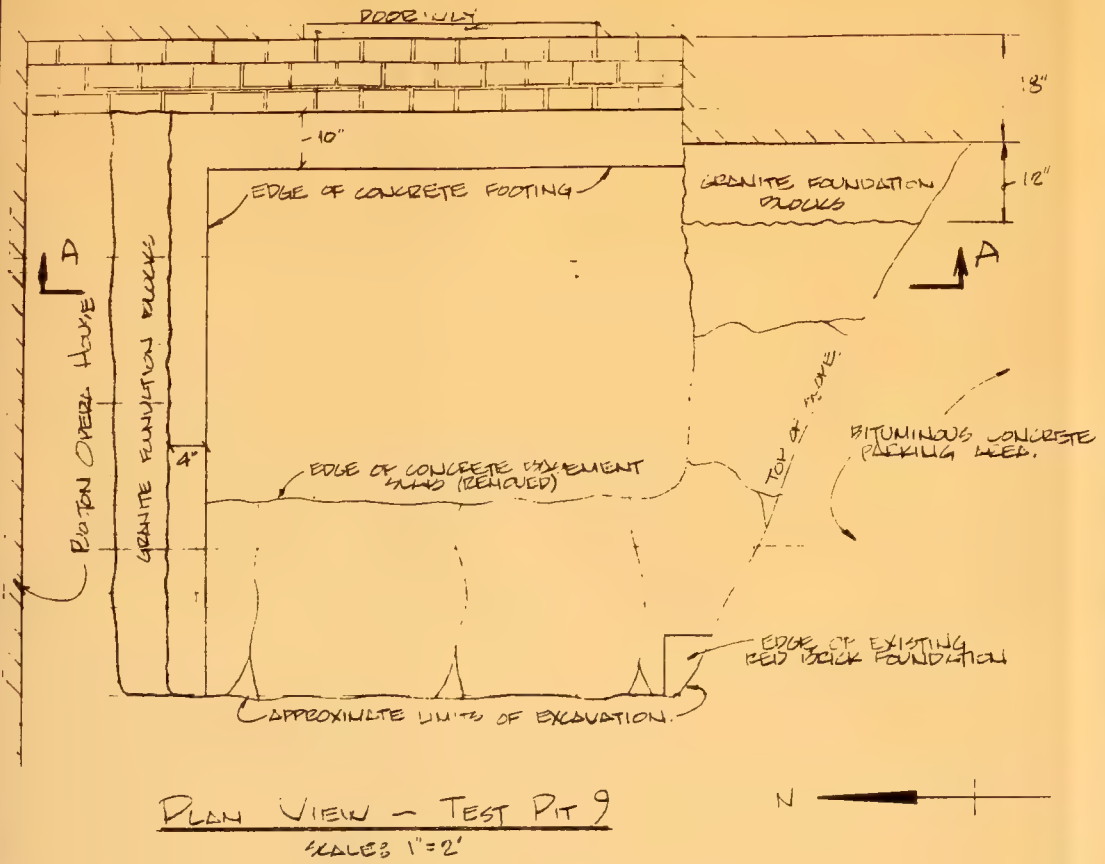
DEPTH 12.0 ft.

JAR SAMPLES 1

BAG SAMPLES -

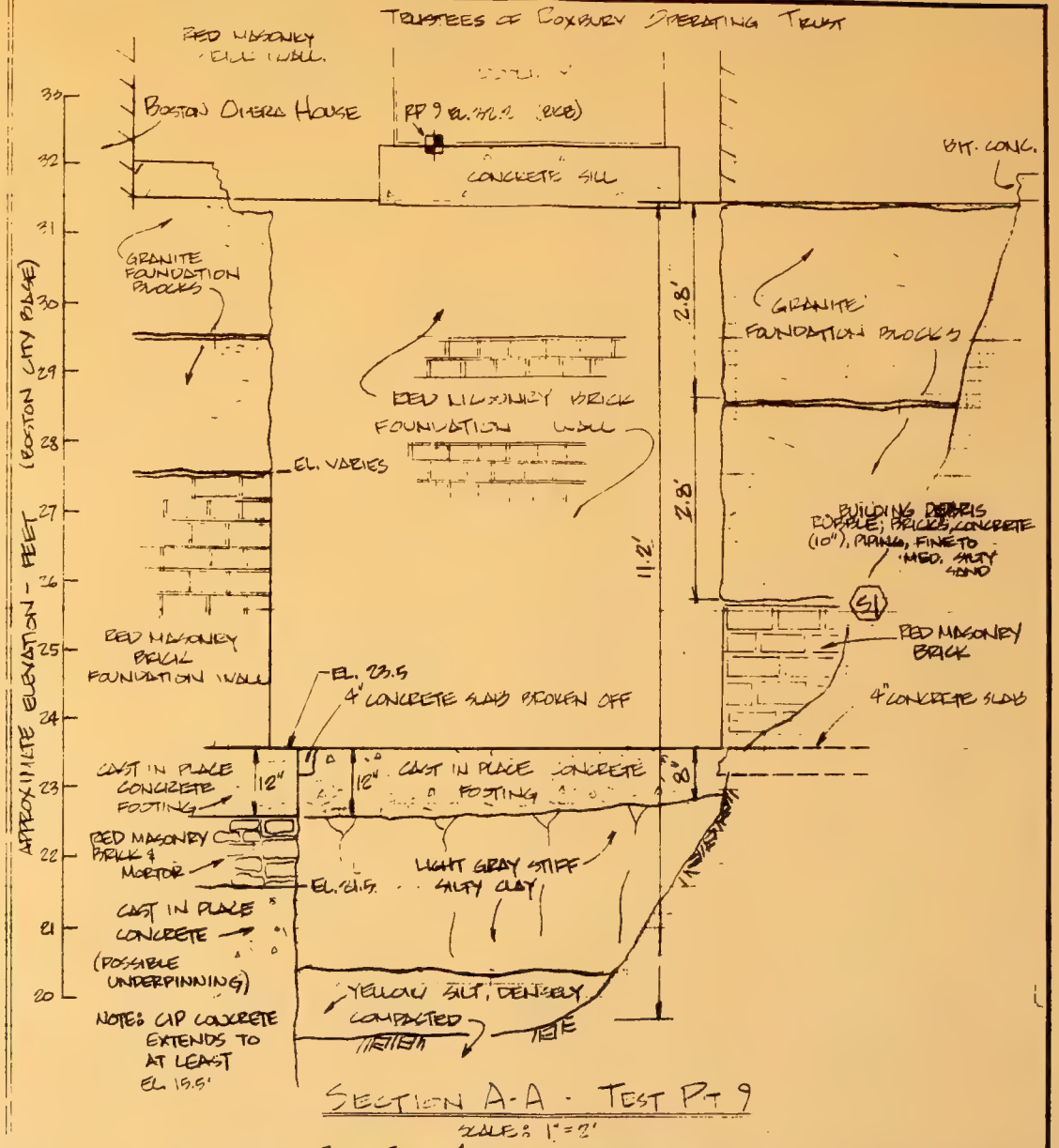
WATER LEVEL N.E.

Form 24 Rev. Mar. 88




PLAN VIEW – TEST PIT 9

SCALE: 1" = 2'




SECTION A-A - TEST PIT 9

SCALE: 1" = 2'

0 1 2 3 4

LEGEND

SI APPROX. SAMPLING LOCATION & NUMBER

REFERENCE POINT

Haley & Aldrich, Inc.
Consulting Geotechnical Engineers, Geologists and Hydrogeologists

COMMONWEALTH CENTER
BOSTON, MASSACHUSETTS

TEST PIT EXCAVATION NO. 9

SCALE: AS SHOWN

SEPTEMBER 1988

FILE NO. 04746-02.B39

CHARRETTE

# Appendix C

# APPENDIX C

CCE Series Test Boring Logs by
Guild Drilling Co., Inc.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 1
DATE
HOLE NO. CCE-1
LINE & STA.
OFFSET
SURF. ELEV. 30.50

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.
PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.
REPORT SENT TO above / Center | PROJ. NO. 05746-02
SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At None after Hours
At after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I D | 4½" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/9/89 | a.m. p.m. |
| COMPLETE | 6/9/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | S. Triolo | |
| INSPECTOR | B. Miller | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" | Black Top | | | |
| | | 1'-3' | D | 13 | 20 | 23 | | | FILL - Brick, Mortar, | 1 | 24" | 10" |
| | | | | | | 10 | | | Steel Bar, Wood | | | |
| | | 3'-5' | D | 4 | 4 | 7 | | | Concrete Wall | 2 | 24" | 2" |
| | | | | | | 11 | | | | | | |
| | | 5'-6' | D | Not Recorded | | | | | | 3 | 5" | 2" |
| | | | | | | | | | 6'-9' VOID | | | |
| | | 9'5" -10'.9" | D | 77 | 18 | 95/4" | | | | 4 | 16" | 6" |
| | | | | | | | | 11' | | | | |
| | | | | | | | | | Auger Refusal at 11' | | | |
| | | | | | | | | | Concrete Foundation | | | |
| | | | | | | | | | Note: Stop by Inspector @ 11' | | | |
| | | | | | | | | | Told to move by Inspector | | | |

GROUND SURFACE TO 11' USED Auger "CASING: THEN

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring 11'
Rock Coring
Samples 4

HOLE NO. CCE-1

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2
DATE
HOLE NO. CCE-1A
LINE & STA.
OFFSET
SURF. ELEV. 30.51

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.
PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.
REPORT SENT TO above / Center | PROJ. NO. 05746-02
SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At _____ after _____ Hours
At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I.D. | 4¼" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/9/89 | a.m. p.m. |
| COMPLETE | 6/12/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | S. Triolo | |
| INSPECTOR | B. Miller | |
| SOILS ENGR. | | |

LOCATION OF BORING: 5' East of Hole No. CCE-1

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Auger from 0' to 13' No Samples | | | |
| | | | | | | | | 13' | | | | |
| | | 13'-15' | D | 9 | 11 | 17 | | | Brown & Gray Silty CLAY | 5 | 24" | 24" |
| | | | | | | 26 | | | | | | |
| | | 15'-17' | D | 10 | 19 | 18 | | | | 6 | 24" | 22" |
| | | | | | | 18 | | | | | | |
| | | 17'-19' | D | 14 | 16 | 19 | | | | 7 | 24" | 18" |
| | | | | | | 26 | | 19' | | | | |
| | | 19'-21' | D | 3 | 4 | 5 | | | Gray Silty CLAY, lens of fine Sand | 8 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | 21'-23' | D | 5 | 7 | 8 | | | | 9 | 24" | 24" |
| | | | | | | 11 | | | | | | |
| | | 23'-25' | D | 11 | 12 | 12 | | | | 10 | 24" | 24" |
| | | | | | | 12 | | | | | | |
| | | 25'-27' | D | 5 | 6 | 6 | | | | 11 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 27'-29' | D | 7 | 9 | 13 | | | | 12 | 24" | 24" |
| | | | | | | 14 | | | | | | |
| | | 29'-31' | D | 6 | 7 | 14 | | | | 13 | 24" | 24" |
| | | | | | | 21 | | 31' | | | | |
| | | 31'-33' | D | 13 | 20 | 36 | | | Brown fine to medium SAND, trace of silt | 14 | 24" | 12" |
| | | | | | | 28 | | | | | | |
| | | 35'-37' | D | 12 | 14 | 16 | | | | 15 | 24" | 20" |
| | | | | | | 19 | | 37' | | | | |
| | | | | | | | | | Stop at 37' by Inspector Installed Well | | | |

GROUND SURFACE TO 35' USED Auger "CASING: THEN S/S to 37'

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring 37'
Rock Coring
Samples 11

HOLE NO CCE-1A

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CCE-1A

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m / p.m |
| COMPLETE | | a.m / p.m |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc Rock - color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 20' of 2" Screen (PVC)<br>20' of 2" Solid<br>15 Bags of Ottawa Sand<br>50 lbs. of Bentonite<br>2 Bags of Cement<br>One 3" Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CCE-1A

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

DATE

HOLE NO. CCE-2

LINE & STA.

OFFSET

SURF. ELEV. 28.70

GROUND WATER OBSERVATIONS

At 23' after ____ Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I D | 4¼" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/13/89 | |
| COMPLETE | 6/13/89 | |
| TOTAL HRS. | | |
| BORING FOREMAN | S. Triolo | |
| INSPECTOR | B. Miller | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1' | 6" Black Top - 6" Gravel | | | |
| | | 1'-2'6" | D | 26 | 51 | 85 | | | FILL - Red Brick, Mortar, Rebar Steel, Concrete Slab trace wood | 1 | 18" | 7" |
| | | | | | | | | | (2'6" to 5' - Auger through Concrete Slab) | | | |
| | | 5'-7' | D | 10 | 22 | 7 | | | | 2 | 24" | 2" |
| | | | | | | 3 | | | | | | |
| | | 7'-9' | D | 3 | 4 | 10 | | | | 3 | 24" | 1" |
| | | | | | | 22 | | | (9' to 10' - Auger through Concrete Slab) | | | |
| | | 10'-12' | D | 4 | 4 | 3 | | | | 4 | 24" | 12 |
| | | | | | | 2 | | 12' | | | | |
| | | 12'-14' | D | 3 | 4 | 7 | | | Gray and Brown Silty CLAY, lens of fine Sand | 5 | 24" | 22 |
| | | | | | | 8 | | | | | | |
| | | 14'-16' | D | 2 | 3 | 3 | | | | 6 | 24" | 24 |
| | | | | | | 4 | | | | | | |
| | | 16'-18' | D | 5 | 5 | 7 | | | | 7 | 24" | 24 |
| | | | | | | 8 | | | | | | |
| | | 18'-20' | D | 11 | 9 | 11 | | | | 8 | 24" | 24 |
| | | | | | | 13 | | | | | | |
| | | 20'-22' | D | 1 | 2 | 2 | | | | 9 | 24" | 24 |
| | | | | | | 3 | | | | | | |
| | | 22'-23' | D | 6 | 12 | | | 23' | | 10 | 12" | 8" |
| | | 23'-24' | D | 13 | 16 | | | | Brown fine to medium SAND, trace of silt | 10A | 12" | 6" |
| | | 24'-26' | D | 5 | 6 | 11 | | | | 11 | 24" | 24" |
| | | | | | | 14 | | | | | | |
| | | 26'-28' | D | 16 | 17 | 22 | | | | 12 | 24" | 14" |
| | | | | | | 24 | | | | | | |
| | | 28'-30' | D | 17 | 23 | 32 | | | | 13 | 24" | 24 |
| | | | | | | 41 | | | | | | |
| | | 30'-32' | D | 3 | 3 | 12 | | | | 14 | 24" | 18 |
| | | | | | | 11 | | | | | | |
| | | 35'-37' | D | 8 | 10 | 23 | | | | 15 | 24" | 24 |
| | | | | | | 31 | | 37' | | | | |
| | | | | | | | | | Hole stop by Inspector @ 37' | | | |
| | | | | | | | | | Installed Well | | | |

GROUND SURFACE TO 35' USED Auger "CASING: THEN S/S to 37'

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY:
Earth Boring 37'
Rock Coring
Samples 15

HOLE NO. CCE-2

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2

DATE

HOLE NO. CCE-2

LINE & STA.

OFFSET

SURF. ELEV.

TO | ADDRESS

PROJECT NAME | LOCATION

REPORT SENT TO | PROJ. NO.

SAMPLES SENT TO | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN

INSPECTOR

SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 20' of 2" Screen (PVC)<br>15' of 2" Solid<br>15 Bags of Ottawa Sand<br>50 lbs. of Bentonite<br>3 Bags of Cement<br>One 3" Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |

30 + Hard

SUMMARY

Earth Boring

Rock Coring

Samples

HOLE NO. CCE-2

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2
DATE
HOLE NO. CC E-3
LINE & STA.
OFFSET
SURF. ELEV.

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.
PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.
REPORT SENT TO above / Center | PROJ. NO. 05746-02
SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At _____ after _____ Hours
At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size O | HW | 1-3/8" | |
| Hammer Wt | Spun | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 8/7/89 | a.m. p.m. |
| COMPLETE | 8/9/89 | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN G. Brouillette
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0'-2' | D | 10 | 11 | 12 | | | Brown fine to medium Sand & Gravel, some brick - FILL | 1 | 24" | 12" |
| | | | | | | 17 | | | | | | |
| | | 2'-4' | D | 16 | 12 | 3 | | | Crushed Stone - FILL | 2 | 24" | 1" |
| | | | | | | 3 | | | | | | |
| | | 4'-6' | D | 4 | 5 | 4 | | | Cinder FILL & Brick | 3 | 24" | 4" |
| | | | | | | 6 | | | | | | |
| | | 6'-8' | D | 7 | 8 | 12 | | | Brick, trace of cinders FILL | 4 | 24" | 18" |
| | | | | | | 12 | | | | | | |
| | | 8'-10' | D | 16 | 22 | 26 | | | | 5 | 24" | 19" |
| | | | | | | 33 | | | | | | |
| | | 10'-11' | D | 16 | 20 | (50/0") | | | | 6 | 12" | 12" |
| | | | | | | | | | (Button Bit through Granite Blocks from 11' to 15') | | | |
| | | 13'-14'3" | D | Wt. | Rods | 6/3" | | | (Odor of Oil at 12') | 7 | 15" | 1" |
| | | @ 14'3" | D | 100/0" | | | | 15' | | | | |
| | | 16'-18' | D | 5 | 5 | 8 | | | Gray Silty CLAY & fine Sand, trace of oil | 8 | 24" | 18" |
| | | | | | | 9 | | | | | | |
| | | 18'-20' | D | 8 | 10 | 8 | | | | 9 | 24" | 18" |
| | | | | | | 12 | | 20' | | | | |
| | | 20'-22' | D | 4 | 5 | 6 | | | Gray silty fine SAND with frequent silty clay layers | 10 | 24" | 24" |
| | | | | | | 9 | | | | | | |
| | | 22'-24' | D | 10 | 11 | 11 | | | | 11 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | 24'-26' | D | 9 | 8 | 8 | | | | 12 | 24" | 24" |
| | | | | | | 10 | | | | | | |
| | | 26'-28' | D | 10 | 11 | 15 | | | | 13 | 24" | 24" |
| | | | | | | 16 | | | | | | |
| | | 28'-30' | D | 8 | 18 | 14 | | | | 14 | 24" | 24" |
| | | | | | | 14 | | | | | | |
| | | 30'-32' | D | 15 | 17 | 23 | | | | 15 | 24" | 20" |
| | | | | | | 19 | | | | | | |
| | | 32'-34' | D | 4 | 8 | 5 | | 33' | | 16 | 24" | 24" |
| | | | | | | 7 | | | Gray Silty CLAY | | | |
| | | 34'-36' | D | 4 | 4 | 5 | | | | 17 | 24" | 24" |
| | | | | | | 7 | | 36' | | | | |
| | | | | | | | | | Bottom of Boring 36' | | | |

GROUND SURFACE TO 34' USED HW "CASING: THEN S/S to 36'

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring 36'
Rock Coring
Samples 17

HOLE NO. CC E-3

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2
DATE
HOLE NO. CC E-3
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Installed 2" PVC at 36' | | | |
| | | | | | | | | | 20' Slotted - 20' Solid | | | |
| | | | | | | | | | 6 Bags of Ottawa Sand | | | |
| | | | | | | | | | 4 Bags of Cement | | | |
| | | | | | | | | | One Pail of Bentonite Balls | | | |
| | | | | | | | | | One 4" Road Box | | | |
| | | | | | | | | | Note: @ 11' Burn out Auger Head Change over to 4" Casing | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC E-3

TOWN PRESS — EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

DATE

HOLE NO. CCE-4

LINE & STA.

OFFSET

SURF. ELEV. 33.02

GROUND WATER OBSERVATIONS

At 30' after ____ Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I D | 4¼" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/14/89 | a.m. p.m. |
| COMPLETE | 6/15/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | S. Triolo | |
| INSPECTOR | B. Miller | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From To 0-6 | 6-12 | 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" | 3" Black Top - 3" Gravel | | | |
| | | 6"-2'6" | D | 16 | 27 | 9 | | | FILL - Red Brick, Mortar, Sand and Gravel, Wire | 1 | 24" | 17" |
| | | | | | | 11 | | | | | | |
| | | 2'6"-4'6" | D | 15 | 16 | 23 | | | Concrete Floor | 2 | 24' | 5" |
| | | | | | | 31 | | | | | | |
| | | 5'-6'3" | D | 12 | 5 | 50/3" | | | | 3 | 15" | 2" |
| | | | | | | | | | (6'3" to 8' - Auger through Obstruction) | | | |
| | | 8'-8'4" | D | 50/4" | | | | | | 4 | 4" | 3" |
| | | | | | | | | | (8'4" to 12' - Auger through Concrete Floor) | | | |
| | | 12'-14' | D | 28 | 36 | 65 | | | | 5 | 24" | 20" |
| | | | | | | 60 | | 14' | | | | |
| | | 14'-16' | D | 20 | 19 | 45 | | | Brown fine to coarse SAND & Gravel, trace of silt | 6 | 24" | 20" |
| | | | | | | 68 | | 16'6" | | 7 | 6" | 6" |
| | | 16'-16'6" | D | 21 | | | | | Yellow & Gray CLAY - SILT | 7A | 18" | 18" |
| | | 16'6"-18' | D | 19 | 68 | 74 | | | | 8 | 24" | 6" |
| | | 18'-20' | D | 56 | 68 | 85 | | 20' | | | | |
| | | | | | | 41 | | | | | | |
| | | 20'-22' | D | 5 | 8 | 13 | | | Yellow & Gray Silty CLAY | 9 | 24" | 24" |
| | | | | | | 13 | | | | | | |
| | | 22'-24' | D | 13 | 14 | 17 | | | | 10 | 24" | 24" |
| | | | | | | 24 | | | | | | |
| | | 24'-26' | D | 6 | 7 | 7 | | | | 11 | 24" | 24" |
| | | | | | | 9 | | | | | | |
| | | 26'-28' | D | 11 | 12 | 14 | | | | 12 | 24" | 24" |
| | | | | | | 17 | | | | | | |
| | | 28'-30' | D | 14 | 19 | 28 | | | Gray Silty CLAY, lens of fine sand | 13 | 24" | 24" |
| | | | | | | 31 | | | | | | |
| | | 30'-32' | D | 6 | 8 | 11 | | | | 14 | 24" | 22" |
| | | | | | | 11 | | | | | | |
| | | | | | | | | 33' | | | | |
| | | 35'-37' | D | 11 | 12 | 14 | | | Brown fine to medium SAND, trace of silt | 15 | 24" | 20" |
| | | | | | | 17 | | | | | | |

GROUND SURFACE TO 40' USED Auger "CASING: THEN S/S to 42'

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 42'
Rock Coring
Samples 16

HOLE NO CCE-4

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2
DATE
HOLE NO. CCE-4
LINE & STA.
OFFSET
SURF. ELEV.

TO | ADDRESS
PROJECT NAME | LOCATION
REPORT SENT TO | PROJ. NO
SAMPLES SENT TO | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time | |
|---|---|---|---|
| START | | | a.m. p.m. |
| COMPLETE | | | a.m. p.m. |
| TOTAL HRS. | | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40'-42' | D | 10 | 13 | 12 | | | | 16 | 24" | 20 |
| | | | | | | 10 | | 42' | | | | |
| | | | | | | | | | Bottom of Boring 42'<br>Hole stop by Inspector | | | |
| | | | | | | | | | Installed Well<br>20' of 2" Screen (PVC)<br>20' of 2" Solid<br>50 lbs. of Bentonite<br>3 Bags of Cement<br>14 Bags of Ottawa Sand<br>One 3" Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO. CCE-4

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

DATE

HOLE NO. CCE-5

LINE & STA.

OFFSET

SURF. ELEV. 34.59

GROUND WATER OBSERVATIONS

At 34' after ____ Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I D | 4½" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/7/89 | a.m. p.m. |
| COMPLETE | 6/9/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | S. Triolo | |
| INSPECTOR | R. Miller | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From To 0-6 | 6-12 | 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" | 3" Black Top - 3" Gravel | | | |
| | | 6"-2'6" | D | 9 | 30 | 17 | | | FILL - Brick, Mortar, | 1 | 24" | 13 |
| | | | | | | 7 | | | Cobbles, Concrete Slab, | | | |
| | | 2'6"-4'6" | D | 20 | 30 | 45 | | | Rebar Steel, trace wood | 2 | 24" | 2" |
| | | | | | | 50 | | | | | | |
| | | 5'-7' | D | 9 | 10 | 7 | | | | 3 | 24" | 9" |
| | | | | | | 8 | | | | | | |
| | | 7'-7'3" | D | 50/5" | | | | | | 4 | 5" | 3" |
| | | | | | | | | | (7'3" to 10' - Auger through | | | |
| | | | | | | | | | Concrete Slab & Brick) | | | |
| | | 10'-12' | D | 4 | 25 | 14 | | | | 5 | 24" | 4" |
| | | | | | | 15 | | 12' | | | | |
| | | 12'-13' | D | 16 | 13 | | | 13' | Brown fine to medium SAND | 6 | 12" | 6" |
| | | 13'-14' | D | 31 | 50 | | | | Brown SAND, Silt & Clay | 6A | 12" | 16 |
| | | 14'-16' | D | 9 | 10 | 10 | | | | 7 | 24" | 22 |
| | | | | | | 18 | | | | | | |
| | | 16'-18' | D | 11 | 9 | 18 | | | | 8 | 24" | 22 |
| | | | | | | 21 | | | | | | |
| | | 18'-20' | D | 16 | 17 | 20 | | | | 9 | 24" | 22 |
| | | | | | | 18 | | 20' | | | | |
| | | 20'-22' | D | 5 | 5 | 6 | | | Brown & Gray Silty CLAY | 10 | 24" | 24 |
| | | | | | | 7 | | | | | | |
| | | 22'-24' | D | 7 | 10 | 14 | | | | 11 | 24" | 24 |
| | | | | | | 13 | | 24'6" | | | | |
| | | 24'-26' | D | 7 | 8 | 10 | | | | 12 | 24" | 18 |
| | | | | | | 12 | | | Brown fine to medium SAND, | | | |
| | | 26'-28' | D | 11 | 14 | 18 | | | trace of silt | 13 | 24" | 24 |
| | | | | | | 22 | | | | | | |
| | | 28'-30' | D | 23 | 25 | 42 | | | | 14 | 24" | 24 |
| | | | | | | 45 | | | | | | |
| | | 30'-32' | D | 5 | 15 | 20 | | | | 15 | 24" | 24 |
| | | | | | | 37 | | | | | | |
| | | 32'-34' | D | 14 | 22 | 26 | | | | 16 | 24" | 18 |
| | | | | | | 29 | | | | | | |
| | | 34'-36' | D | 5 | 9 | 14 | | | | 17 | 24" | 24 |
| | | | | | | 11 | | | | | | |
| | | 36'-38' | D | 6 | 12 | 11 | | | | 18 | 24" | 24 |
| | | | | | | 9 | | 38' | | | | |

GROUND SURFACE TO 45' USED Auger CASING: THEN ____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 45'
Rock Coring
Samples 20

HOLE NO CCE-5

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2
DATE
HOLE NO. CCE-5
LINE & STA.
OFFSET
SURF. ELEV.

TO | ADDRESS
PROJECT NAME | LOCATION
REPORT SENT TO | PROJ. NO.
SAMPLES SENT TO | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time | |
|---|---|---|---|
| START | | | A.M. P.M. |
| COMPLETE | | | A.M. P.M. |
| TOTAL HRS. | | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40'-42' | D | 7 | 11 | 16 | | | Gray Silty CLAY | 19 | 24" | 24" |
| | | | | | | 25 | | 42' | | | | |
| | | 42'-44' | D | 15 | 22 | 19 | | | Brown fine to medium SAND, trace of silt | 20 | 24" | 24" |
| | | | | | | 22 | | | | | | |
| | | | | | | | | 45' | | | | |
| | | | | | | | | | Bottom of Boring 45' | | | |
| | | | | | | | | | Installed Well | | | |
| | | | | | | | | | 20' of 2" Slotted (PVC) | | | |
| | | | | | | | | | 24'6" of 2" Solid | | | |
| | | | | | | | | | 50 lbs. of Bentonite | | | |
| | | | | | | | | | 2 Bags of Cement | | | |
| | | | | | | | | | 13 Bags of Ottawa Sand | | | |
| | | | | | | | | | One 3" Road Box | | | |

GROUND SURFACE TO 45' USED Auger "CASING: THEN

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CCE-5

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

DATE

HOLE NO. CCE-6

LINE & STA.

OFFSET

SURF. ELEV. 34.97

GROUND WATER OBSERVATIONS

At 34' after Hours

At after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I D | 4½" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time | |
|---|---|---|---|
| START | 6/6/89 | | A.M. P.M. |
| COMPLETE | 6/7/89 | | A.M. P.M. |
| TOTAL HRS. | | | |
| BORING FOREMAN | S. Triolo | | |
| INSPECTOR | B. Miller | | |
| SOILS ENGR. | | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" | Black Top | | | |
| | | 1'-3' | D | 48 | 60 | 31 | | | FILL - Red Brick, Mortar, Concrete Slab, trace of | 1 | 24" | 14" |
| | | | | | | 22 | | | | | | |
| | | 3'-4'6" | D | 42 | 32 | 69 | | | wood, Rebar Steel | 2 | 18" | 4" |
| | | 6'-6'4" | D | 100/4" | | | | | (6'4" to 8' - Auger through Concrete Slab & Rebar Steel) | 3 | 4" | 4" |
| | | 8'-10' | D | 6 | 8 | 3 | | | | 4 | 24" | 12" |
| | | | | | | 8 | | | | | | |
| | | 10'-12' | D | 15 | 17 | 18 | | | | 5 | 24" | 18" |
| | | | | | | 18 | | | | | | |
| | | 12'-12'8" | D | 17 | 70/2" | | | | | 6 | 8" | 12" |
| | | | | | | | | 13'6" | (12'8" to 13'6" - Auger through Wood) | | | |
| | | 14'-16' | D | 5 | 11 | 10 | | | Brown fine to medium SILT, | 7 | 24" | 22" |
| | | | | | | 14 | | | trace of clay. | | | |
| | | 16'-18' | D | 6 | 6 | 11 | | | | 8 | 24" | 24" |
| | | | | | | 13 | | 18' | | | | |
| | | 18'-20' | D | 11 | 14 | 22 | | | Gray fine to medium SAND, | 9 | 24" | 24" |
| | | | | | | 23 | | | | | | |
| | | 20'-22' | D | 6 | 11 | 8 | | | trace of silt, lens of | 10 | 24" | 24" |
| | | | | | | 10 | | | clay | | | |
| | | 22'-24' | D | 7 | 8 | 13 | | | | 11 | 24" | 24" |
| | | | | | | 14 | | | | | | |
| | | 24'-26' | D | 6 | 6 | 8 | | | | 12 | 24" | 20" |
| | | | | | | 10 | | | | | | |
| | | 26'-28' | D | 10 | 16 | 22 | | | | 13 | 24" | 24" |
| | | | | | | 24 | | | | | | |
| | | 28'-30' | D | 18 | 31 | 26 | | | | 14 | 24" | 24" |
| | | | | | | 42 | | | | | | |
| | | 30'-32' | D | 7 | 10 | 14 | | | | 15 | 24" | 24" |
| | | | | | | 16 | | 32' | | | | |
| | | 32'-34' | D | 14 | 17 | 28 | | | Brown fine to medium SAND, | 16 | 24" | 24" |
| | | | | | | 39 | | | trace of silt | | | |
| | | 34'-36' | D | 15 | 20 | 30 | | | | 17 | 24" | 24" |
| | | | | | | 30 | | | | | | |
| | | 36'-38' | D | 18 | 24 | 28 | | | | 18 | 24" | 24" |
| | | | | | | 31 | | | | | | |

GROUND SURFACE TO 45' USED Auger "CASING: THEN

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 45'
Rock Coring
Samples 19

HOLE NO CCE-6

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CCE-6

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40'-42' | D | 3 | 9 | 26 | | | Brown fine to medium SAND, | 19 | 24 | 24" |
| | | | | | | 47 | | | trace of silt | | | |
| | | | | | | | | 45' | | | | |
| | | | | | | | | | Bottom of Boring 45' | | | |
| | | | | | | | | | Installed Well | | | |
| | | | | | | | | | 20' of 2" Screen (PVC) | | | |
| | | | | | | | | | 23' of 2" Solid | | | |
| | | | | | | | | | 50 lbs. of Bentonite | | | |
| | | | | | | | | | 2 Bags of Cement | | | |
| | | | | | | | | | One 3" Road Box | | | |
| | | | | | | | | | 8 Bags of Ottawa Sand | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO. CCE-6

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 1

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

DATE

HOLE NO. CCE-7

LINE & STA.

OFFSET

SURF. ELEV. 37.73

GROUND WATER OBSERVATIONS

At None after Hours

At after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I D | 4½" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/19/89 | a.m. p.m. |
| COMPLETE | 6/19/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | S. Triolo | |
| INSPECTOR | R. Miller | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1' | 3" Black Top - 9" Brick | | | |
| | | 1'-3' | D | 37 | 30 | 11 | | | FILL - Red Brick, Mortar, | 1 | 24' | 6" |
| | | | | | | 13 | | | Sand, Gravel, Granite | | | |
| | | 3'-3'8" | D | 21 | 50/2" | | | 4' | Boulder | 2 | 8" | 5" |
| | | | | | | | | | Auger Refusal at 4' | | | |
| | | | | | | | | | Order to move by Inspector | | | |

GROUND SURFACE TO 4' USED Auger "CASING: THEN

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 4'
Rock Coring
Samples 2

HOLE NO. CCE-7

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2
DATE
HOLE NO. CCE-7A
LINE & STA.
OFFSET
SURF. ELEV. 37.68

TO Haley & Aldrich, Inc. ADDRESS Cambridge, Mass.
PROJECT NAME Proposed Commonwealth LOCATION Boston, Mass.
REPORT SENT TO above / Center PROJ. NO. 05746-02
SAMPLES SENT TO Taken at Site OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At 28' after ____ Hours
At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I.D | 4¼" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/19/89 | |
| COMPLETE | 6/20/89 | |
| TOTAL HRS. | | |

BORING FOREMAN S. Triolo
INSPECTOR B. Miller
SOILS ENGR.

LOCATION OF BORING 3' East of Hole No. CCE-7

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Auger from 0' to 5' No Samples | | | |
| | | 5'-7' | D | 3 | 8 | 5 | | | FILL - Sand & Gravel, trace of loam, Red Brick, Mortar, Cobbles, Concrete | 3 | 24" | 7" |
| | | | | | | 6 | | | | | | |
| | | 7'-9' | D | 6 | 8 | 11 | | | | 4 | 24" | 3" |
| | | | | | | 12 | | | | | | |
| | | 9'-11' | D | 10 | 11 | 22 | | | | 5 | 24" | 8" |
| | | | | | | 15 | | | | | | |
| | | 11'-13' | D | 6 | 7 | 12 | | | | 6 | 24" | 14" |
| | | | | | | 14 | | | | | | |
| | | 13'-15' | D | 12 | 13 | 23 | | | | 7 | 24" | 20" |
| | | | | | | 33 | | | | | | |
| | | 15'-16'6" | D | 20 | 32 | 18 | | 16'6" | | 8 | 18" | 12" |
| | | 16'6"-17' | D | 13 | | | | | | 8A | 6" | 3" |
| | | 17'-17'6" | D | 17 | | | | 17'6" | Brown fine SAND, tr. silt | 9 | 6" | 6" |
| | | 17'6"-19' | D | 17 | 36 | 47 | | | Yellow CLAY and Silt | 9A | 18" | 18" |
| | | 19'-21' | D | 11 | 17 | 15 | | | | 10 | 24" | 20" |
| | | | | | | 18 | | | | | | |
| | | 21'-23' | D | 22 | 22 | 31 | | | | 11 | 24" | 22" |
| | | | | | | 38 | | 23' | | | | |
| | | 23'-25' | D | 25 | 29 | 41 | | | Brown fine to medium SAND, | 12 | 24" | 20" |
| | | | | | | 43 | | 25' | trace of silt | | | |
| | | 25'-27' | D | 6 | 8 | 10 | | | Yellow Silty CLAY, lens | 13 | 24" | 24" |
| | | | | | | 34 | | 27' | of fine Sand | | | |
| | | 27'-29' | D | 25 | 31 | 36 | | | Brown fine to medium SAND, | 14 | 24" | 16" |
| | | | | | | 47 | | | trace of silt | | | |
| | | 30'-32' | D | 14 | 18 | 22 | | | | 15 | 24" | 22" |
| | | | | | | 19 | | | | | | |
| | | 35'-37' | D | 25 | 25 | 32 | | | | 16 | 24" | 24" |
| | | | | | | 36 | | | | | | |
| | | | | | | | | 38' | | | | |

GROUND SURFACE TO 40' USED Auger "CASING: THEN S/S to 42'

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 42'
Rock Coring
Samples 17

HOLE NO CCE-7A

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2
DATE
HOLE NO. CCE-7A
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40'-42' | D | 8 | 8 | 9 | | | Gray Silty CLAY | 17 | 24" | 24" |
| | | | | | | 12 | | 42' | | | | |
| | | | | | | | | | Bottom of Boring 42' | | | |
| | | | | | | | | | Installed Well | | | |
| | | | | | | | | | 20' of 2" Screen (PVC) | | | |
| | | | | | | | | | 17' of 2" Solid (PVC) | | | |
| | | | | | | | | | 50 lbs. of Bentonite | | | |
| | | | | | | | | | 2 Bags of Cement | | | |
| | | | | | | | | | 12 Bags of Ottawa Sand | | | |
| | | | | | | | | | One 3" Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO. CCE-7

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

DATE

HOLE NO. CCE-9

LINE & STA.

OFFSET

SURF. ELEV. 32.14

GROUND WATER OBSERVATIONS

At 31'6" after ____ Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I.D. | 4½" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/16/89 | a.m. p.m. |
| COMPLETE | 6/16/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | S. Triolo | |
| INSPECTOR | B. Miller | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1' | Black Top | | | |
| | | 1'-3' | D | 77 | 14 | 4 | | | FILL - Sand, Gravel, Red Brick, Mortar & Concrete | 1 | 24" | 12" |
| | | | | | | 4 | | | | | | |
| | | 3'-5' | D | 10 | 18 | 12 | | | | 2 | 24" | 2" |
| | | | | | | 11 | | | | | | |
| | | 5'-7' | D | 5 | 1 | 4 | | | | 3 | 24" | 3" |
| | | | | | | 4 | | | | | | |
| | | 7'-9' | D | 6 | 6 | 9 | | | | 4 | 24" | 6" |
| | | | | | | 6 | | | | | | |
| | | 9'-10'6" | D | 8 | 12 | 10 | | 10'6" | | 5 | 18" | 3" |
| | | 10'6"-11' | D | 8 | | | | | | 5A | 6" | 3" |
| | | 11'-13' | D | 8 | 14 | 21 | | 11' | Yellow sandy SILT | 6 | 24" | 18" |
| | | | | | | 19 | | | | | | |
| | | 13'-15' | D | 24 | 20 | 28 | | | | 7 | 24" | 22" |
| | | | | | | 31 | | 15' | | | | |
| | | 15'-17' | D | 4 | 3 | 4 | | | Yellow Silty CLAY | 8 | 24" | 24" |
| | | | | | | 8 | | | | | | |
| | | 17'-19' | D | 7 | 8 | 11 | | | | 9 | 24" | 24" |
| | | | | | | 14 | | 19' | | | | |
| | | 19'-21' | D | 7 | 9 | 10 | | | Brown fine to medium SAND, trace of silt | 10 | 24" | 24" |
| | | | | | | 10 | | 21'6" | | | | |
| | | 21'-21'6" | D | 14 | | | | | | 11 | 6" | 6" |
| | | 21'6"-23' | D | 19 | 22 | 24 | | 23' | Yellow Silty CLAY | 11A | 18" | 18" |
| | | 23'-25' | D | 40 | 50 | 60 | | | Brown fine SAND, trace of silt | 12 | 24" | 24" |
| | | | | | | 52 | | | | | | |
| | | 25'-27' | D | 21 | 24 | 25 | | | | 13 | 24" | 22" |
| | | | | | | 24 | | | | | | |
| | | 27'-29' | D | 22 | 26 | 34 | | | | 14 | 24" | 22" |
| | | | | | | 41 | | 29' | | | | |
| | | 29'-31' | D | 16 | 18 | 18 | | | Brown fine to medium SAND, trace of silt | 15 | 24" | 17" |
| | | | | | | 21 | | | | | | |
| | | 31'-33' | D | 10 | 16 | 29 | | | | 16 | 24" | 18" |
| | | | | | | 36 | | | | | | |
| | | 33'-34'6" | D | 24 | 28 | 22 | | 34'6" | | 17 | 18" | 12" |
| | | 34'6"-35' | D | 16 | | | | | | 17A | 6" | 6" |
| | | 35'-37' | D | 4 | 5 | 6 | | | Gray Silty CLAY | 18 | 24" | 24" |
| | | | | | | 8 | | 38' | | | | |

GROUND SURFACE TO 40' USED Auger "CASING: THEN S/S to 41'6"

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY
Earth Boring 41'6"
Rock Coring ____
Samples 19

HOLE NO CCE-9

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CCE-9

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From – To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40'-41'6" | D | 7 | 28 | 87 | | 41'6" | Brown fine to medium SAND, trace of silt | 19 | 18" | 18" |
| | | | | | | | | | Bottom of Boring 41'6" | | | |
| | | | | | | | | | Installed Well | | | |
| | | | | | | | | | 20' of 2" Screen (PVC) | | | |
| | | | | | | | | | 20' of 2" Solid | | | |
| | | | | | | | | | 50 lbs. of Bentonite | | | |
| | | | | | | | | | 11 Bags of Ottawa Sand | | | |
| | | | | | | | | | 2 Bags of Cement | | | |
| | | | | | | | | | One 3" Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO. CCE-9

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

DATE

HOLE NO. CCE-11

LINE & STA.

OFFSET

SURF. ELEV. 33.13

GROUND WATER OBSERVATIONS

At 31' after Hours

At after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I.D. | 4½" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 5/30/89 | a.m. p.m. |
| COMPLETE | 5/31/89 | a.m. p.m. |

TOTAL HRS.

BORING FOREMAN S. Triolo

INSPECTOR B. Miller

SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1'6" | 6" Black Top - 12" Concrete | | | |
| | | 1'6"-3'6" | D | 6 | 4 | 3 | | | FILL - Gray & Brown Sand & Gravel, Red Brick, Cobbles | 1 | 24" | 5" |
| | | | | | | 3 | | | | | | |
| | | 3'6"-5'6" | D | 4 | 4 | 4 | | | | 2 | 24" | 3" |
| | | | | | | 5 | | | | | | |
| | | 5'6"-7'6" | D | 3 | 2 | 3 | | | | 3 | 24" | 17" |
| | | | | | | 3 | | | | | | |
| | | 7'6"-9'6" | D | 3 | 12 | 10 | | | | 4 | 24" | 13" |
| | | | | | | 10 | | | | | | |
| | | 10'-12' | D | 15 | 17 | 10 | | | | 5 | 24" | 13" |
| | | | | | | 9 | | 12' | | | | |
| | | 12'-14' | D | 14 | 22 | 46 | | | Gray clayey SILT lens of fine sand | 6 | 24" | 22" |
| | | | | | | 47 | | | | | | |
| | | 14'-16' | D | 15 | 12 | 13 | | | | 7 | 24" | 18" |
| | | | | | | 18 | | | | | | |
| | | 16'-18' | D | 13 | 16 | 17 | | | | 8 | 24" | 18" |
| | | | | | | 22 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 20'-21' | D | 6 | 10 | | | 21' | | 9 | 12" | 12" |
| | | 21'-22' | D | 15 | 17 | | | | Brown fine to medium SAND | 9A | 12" | 12" |
| | | 22'-23' | D | 13 | 17 | | | 23' | | 10 | 12" | 12" |
| | | 23'-24' | D | 18 | 23 | | | 24' | Gray clayey SILT | 10A | 12" | 12" |
| | | 24'-26' | D | 7 | 8 | 10 | | | Brown fine to medium SAND, trace of silt | 11 | 24" | 20" |
| | | | | | | 10 | | | | | | |
| | | 26'-28' | D | 10 | 11 | 13 | | | | 12 | 24" | 24" |
| | | | | | | 14 | | | | | | |
| | | 28'-30' | D | 6 | 10 | 10 | | | | 13 | 24" | 22" |
| | | | | | | 13 | | | | | | |
| | | 30'-32' | D | 9 | 9 | 11 | | | | 14 | 24" | 24" |
| | | | | | | 12 | | | | | | |
| | | 32'-34' | D | 17 | 28 | 33 | | | | 15 | 24" | 24" |
| | | | | | | 31 | | | | | | |
| | | 34'-36' | D | 13 | 17 | 19 | | | | 16 | 24" | 24" |
| | | | | | | 22 | | | | | | |
| | | 36'-38' | D | 14 | 19 | 21 | | | | 17 | 24" | 24" |
| | | | | | | 22 | | | | | | |

GROUND SURFACE TO 40' USED Auger "CASING: THEN S/S to 42'

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring 42'
Rock Coring
Samples 18

HOLE NO CCE-11

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CCE-11

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40'-42' | D | 9 | 6 | 10 | | | Brown fine to medium SAND, | 18 | 24" | 24 |
| | | | | | | 10 | | 42' | trace of silt | | | |
| | | | | | | | | | Bottom of Boring 42' | | | |
| | | | | | | | | | Installed Well | | | |
| | | | | | | | | | 20' of 2" Slotted (PVC) | | | |
| | | | | | | | | | 19' of 2" Solid (PVC) | | | |
| | | | | | | | | | 8 Bags of Ottawa Sand | | | |
| | | | | | | | | | One Bag of Cement | | | |
| | | | | | | | | | 35 lbs. of Bentonite Pellets | | | |
| | | | | | | | | | One 3" Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO. CCE-1

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 1
DATE
HOLE NO. CCE-12
LINE & STA.
OFFSET
SURF. ELEV. 33.98

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.
PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.
REPORT SENT TO above / Center | PROJ. NO. 05746-02
SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At _____ after _____ Hours
At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I D | 4½" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/1/89 | a.m. p.m. |
| COMPLETE | 6/2/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | S. Triolo | |
| INSPECTOR | B. Miller | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1' | 8" Black Top - 4" Gravel | | | |
| | | 1'-3' | D | 15 | 11 | 9 | | | FILL - Loamy Sand, Gravel & Red Brick, Creosote | 1 | 24" | 22' |
| | | | | | | 8 | | | | | | |
| | | 3'-5' | D | 13 | 22 | 31 | | | | 2 | 24' | 18 |
| | | | | | | 20 | | | | | | |
| | | 5'-7' | D | 2 | 3 | 4 | | | | 3 | 24' | 14 |
| | | | | | | 5 | | | | | | |
| | | 7'-9' | D | 6 | 20 | 18 | | | | 4 | 24' | 6" |
| | | | | | | 8 | | | | | | |
| | | 9'-11' | D | 3 | 2 | 6 | | | | 5 | 24' | 12 |
| | | | | | | 10 | | | | | | |
| | | 11'-13' | D | 14 | 16 | 22 | | | | 6 | 24' | 6" |
| | | | | | | 9 | | | | | | |
| | | 13'-15' | D | 18 | 13 | 16 | | | | 7 | 24' | 3" |
| | | | | | | 19 | | | | | | |
| | | 15'-17' | D | 12 | 10 | 6 | | | | 8 | 24' | 10" |
| | | | | | | 6 | | | | | | |
| | | 17'-18'3" | D | 9 | 20 | 110/3" | | | | 9 | 15' | 1" |
| | | | | | | | | | (Auger through Brick Wall from 18' to 26') | | | |
| | | 20'-22' | D | 4 | 5 | 7 | | | | 10 | 24' | 8" |
| | | | | | | 7 | | | | | | |
| | | 22'-23' | D | 5 | 111 | (50/0") | | | | 11 | 12' | 4" |
| | | 25'-25'7" | D | 16 | 50/1" | | | 26' | | 12 | 7" | 4" |
| | | | | | | | | | Auger Refusal at 26' | | | |
| | | | | | | | | | Hole stop by Inspector | | | |

GROUND SURFACE TO 26' USED Auger CASING: THEN

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring 26'
Rock Coring
Samples 12

HOLE NO CCE-12

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 1
DATE
HOLE NO. CCE-12A
LINE & STA.
OFFSET
SURF. ELEV. 33.98

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.
PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.
REPORT SENT TO above / Center | PROJ. NO. 05746-02
SAMPLES SENT TO none | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At None after ____ Hours
At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | H/S/A | | |
| Size I D | 4¼" | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | 6/2/89 | a.m. p.m. |
| COMPLETE | 6/2/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | S. Triolo | |
| INSPECTOR | B. Miller | |
| SOILS ENGR. | | |

LOCATION OF BORING: 5' South of Hole No. CCE-12

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Auger to 19'6" without sampling - soil conditions observed from borehole cuttings: Brown clayey SILT, some medium sand, little particles of brick. | | | |
| | | | | | | | | 19'6" | Auger Refusal at 19'6" | | | |

GROUND SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 19'6"
Rock Coring ____
Samples 0

HOLE NOCCE-12

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO Taken at Site | OUR JOB NO. 89-573

DATE

HOLE NO. CCE-12B

LINE & STA.

OFFSET

SURF. ELEV. 33.58

GROUND WATER OBSERVATIONS

At ___ ____ after ____ Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | H/S/A | S/S | |
| Size I D | HW | 1-3/8" | |
| Hammer Wt | Spun | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/2/89 | a.m. p.m. |
| COMPLETE | 6/5/89 | a.m. p.m. |

TOTAL HRS.

BORING FOREMAN S. Triolo

INSPECTOR B. Miller

SOILS ENGR.

LOCATION OF BORING 30' West of Hole No. CCE-12

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Auger down to 13' (No Samples) | | | |
| | | | | | | | | | Auger Refusal at 13' Pull up augers & spun HW Casing | | | |
| | | | | | | | | 13' | GRANITE Boulder (Spun HW Casing) | | | |
| | | | | | | | | 18' | Brick Wall (Spun HW Casing) | | | |
| | | | | | | | | 34' | | | | |
| | 35'-37' | D | 7 | 3 | 6 | | | | Gray Silty CLAY trace sand | 1 | 24" | 22" |
| | | | | | 6 | | | | | | | |
| | 37'-39' | D | 5 | 5 | 6 | | | | | 2 | 24" | 24" |
| | | | | | 7 | | | 39' | | | | |
| | | | | | | | | | Hole stop by Inspector @ 39' | | | |

GROUND SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY:
Earth Boring 39'
Rock Coring
Samples 2

HOLE NO. CCE-12

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2
DATE
HOLE NO. CCE-12B
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Installed Well<br>20' of 2" Slotted (PVC)<br>12' of 2" Solid (PVC)<br>10 Bags of Ottawa Sand<br>2 Bags of Cement<br>25 lbs. of Bentonite Pellets<br>One 3" Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CCE-12

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 2
DATE
HOLE NO. CCE-13
LINE & STA.
OFFSET
SURF. ELEV. 31.66

TO Haley & Aldrich, Inc. ADDRESS Cambridge, Mass.
PROJECT NAME Proposed Commonwealth LOCATION Boston, Mass.
REPORT SENT TO above / Center PROJ. NO 05746-02
SAMPLES SENT TO " OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At 1' after Hours
(Trapped)
At after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | HW | S/S | |
| Size I.D. | 4" | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | |

| | Date | Time |
|---|---|---|
| START | 8/9/89 | a.m. p.m. |
| COMPLETE | 8/16/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | M. Gunning | |
| INSPECTOR | S. Kelly | |
| SOILS ENGR. | | |

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Basement - Void | | | |
| | | 10'-12' | D | 15 | 6 | 4 | | | Yellow-brown silty fine SAND, trace of coarse to medium sand with brick, concrete fragments | 1 | 24" | 9" |
| | | | | | | 4 | | | | | | |
| | | 12'-14' | D | 16 | 5 | 13 | | | Gray-brown fine sandy SILT, trace of coarse to medium sand and wood fragments | 2 | 24" | 7" |
| | | | | | | 14 | | | | | | |
| | | 14'-16' | D | 115 | 32 | 56 | | | Brown coarse to fine GRAVEL trace of coarse to fine sand, silt | 3 | 24" | 2" |
| | | | | | | 119 | | | | | | |
| | | 16'-17'1" | D | 36 | 114 | 30/1" | | | Brown silty fine SAND, little coarse to medium sand, coarse to fine gravel | 4 | 13" | 7" |
| | | | | | | | | | (Obstruction 17' to 19'6" Possible Granite Block) | | | |
| | | 19'6"-21'6" | D | 13 | 8 | 6 | | | Brown coarse to fine gravelly coarse to fine SAND (loosing water) | 5 | 24" | 6" |
| | | | | | | 15 | | | | | | |
| | | 21'6"-22' | D | 100 | | | | | No Recovery (loosing water) (Obstruction 22' to 23') | 6 | 6" | 0" |
| | | 23'-25' | D | 53 | 33 | 13 | | 23'6" | | 7 | 24" | 12" |
| | | | | | | 14 | | | Brown fine sandy SILT, occasional layer of silty clay, trace concrete debris in top | | | |
| | | 25'-27' | D | 33 | 24 | 13 | | | Brown fine SAND, little silt with boulders | 8 | 24" | 12" |
| | | | | | | 19 | | | | | | |

GROUND SURFACE TO USED "CASING: THEN

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 39'
Rock Coring
Samples 14

HOLE NO CCE-13

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 2

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CCE-13

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 27'-29' | D | 10 | 16 | 17 | | | Brown fine SAND, little silt with boulders | 9 | 24" | 12' |
| | | | | | | 18 | | | | | | |
| | | 29'-31' | D | 13 | 15 | 22 | | | Brown fine SAND, little silt | 10 | 24" | 12 |
| | | | | | | 25 | | | | | | |
| | | 31'-33' | D | 40 | 61 | 36 | | | Brown fine SAND, little silt, occasional layer of coarse to fine sand | 11 | 24" | 12" |
| | | | | | | 25 | | | | | | |
| | | 33'-35' | D | 12 | 20 | 29 | | | Brown fine SAND, little silt | 12 | 24" | 12" |
| | | | | | | 38 | | | | | | |
| | | 35'-37' | D | 15 | 20 | 26 | | | Brown fine SAND, little silt | 13 | 24" | 10" |
| | | | | | | 30 | | | | | | |
| | | 37'-39' | D | 22 | 25 | 31 | | | Brown fine SAND, little silt | 14 | 24" | 12" |
| | | | | | | 45 | | 39' | | | | |
| | | | | | | | | | **Bottom of Boring 39'** | | | |
| | | | | | | | | | Installed Observation Well at 39' | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D: Dry C: Cored W: Washed

UP: Undisturbed Piston

TP: Test Pit A: Auger V: Vane Test

UT: Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CCE-13

# Appendix D

# APPENDIX D

CC100 & 200 Series Test Boring Logs by
Guild Drilling Co., Inc.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC-101

LINE & STA.

OFFSET

SURF. ELEV. 38.60

GROUND WATER OBSERVATIONS

12'6" 6/15/89 AM after 19' HW Hours

after Hours

after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | PW-HW | S/S | NV II split |
| Size I D | NW | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 6/14/89 | a.m. p.m. |
| COMPLETE | 6/20/89 | a.m. p.m. |

TOTAL HRS.

BORING FOREMAN G.Brouillette

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0'-2' | D | 8 | 15 | 12 | | | 1" Black Top - Brick & Cement - Fill | 1 | 24" | 12" |
| | | | | | 5 | | | | | | |
| | 2'-4' | D | 4 | 10 | 10 | | | | 2 | 24" | 3" |
| | | | | | 9 | | | | | | |
| | 4'-6' | D | 11 | 3 | 7 | | | " trace of wood | 3 | 24" | 3" |
| | | | | | 8 | | | | | | |
| | 6'-8' | D | 5 | 8 | 9 | | | | 4 | 24" | - |
| | | | | | 5 | | | | | | |
| | 8'-10' | D | 12 | 7 | 9 | | | | 5 | 24" | 2" |
| | | | | | 8 | | | | | | |
| | 10'-10'6" | D | 3 | 100/0" | (Refusal) | | | | 6 | 6" | 3" |
| | | | | | | | 12' | | | | |
| | 12'-14' | D | 28 | 24 | 26 | | | Brown fine to medium SAND, trace of silt | 7 | 24" | 12" |
| | | | | | 17 | | | | | | |
| | 14'-16' | D | 8 | 14 | 24 | | | | 8 | 24" | 12" |
| | | | | | 21 | | 16' | | | | |
| | 16'-18' | D | 10 | 14 | 14 | | | Brown fine SAND & Silt | 9 | 24" | 12" |
| | | | | | 19 | | | | | | |
| | 19'-21' | D | 9 | 13 | 14 | | | | 10 | 24" | 24" |
| | | | | | 14 | | | | | | |
| | 24'-26' | D | 14 | 15 | 19 | | | | 11 | 24" | 12" |
| | | | | | 18 | | | | | | |
| | 29'-31' | D | 13 | 18 | 18 | | | | 12 | 24" | 12" |
| | | | | | 18 | | | | | | |
| | 34'-36' | D | 13 | 16 | 23 | | | " trace of silt | 13 | 24" | 14" |
| | | | | | 27 | | | | | | |
| | | | | | | | 39' | | | | |

GROUND SURFACE TO 14' USED PW "CASING: THEN HW to 19' - Open & NW to 144'

Sample Type
D=Dry C=Cored W=Washed
P-Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
T=Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |

30 + Hard

SUMMARY:
Earth Boring 144'3"
Rock Coring 5'
Samples 35

HOLE NO. CC 101

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 101

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At 32' after 6/19/89 AM Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'-41' | D | 11 | 15 | 14 | | | Brown fine to medium SAND, | 14 | 24" | 12" |
| | | | | | | 14 | | | trace of silt | | | |
| | | | | | | | | 43' | | | | |
| | | 44'-46' | D | 3 | 5 | 7 | | | Grayish Silty CLAY | 15 | 24" | 24" |
| | | | | | | 23 | | 46' | | | | |
| | | 49'-51' | D | 23 | 38 | 53 | | | Brown fine SAND, | 16 | 24" | 20" |
| | | | | | | 49 | | | little silt | | | |
| | | 54'-56' | D | 30 | 39 | 40 | | | | 17 | 24" | 18" |
| | | | | | | 49 | | | | | | |
| | | | | | | | | 59' | | | | |
| | | 59'-61' | D | 20 | 25 | 40 | | | Brown silty fine SAND | 18 | 24" | 20" |
| | | | | | | 40 | | | (compact) | | | |
| | | | | | | | | 64' | | | | |
| | | 64'-66' | D | 23 | 24 | 22 | | | Brown fine SAND, | 19 | 24" | 18" |
| | | | | | | 40 | | | little silt | | | |
| | | | | | | | | 69' | | | | |
| | | 69'-71' | D | 18 | 36 | 31 | | | Brown Gray fine SAND, | 20 | 24" | 18" |
| | | | | | | 33 | | | some silt | | | |
| | | 74'-76' | D | 8 | 17 | 40 | | | | 21 | 24" | 20" |
| | | | | | | 56 | | | | | | |
| | | | | | | | | 79' | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 101

GUILD DRILLING - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 101

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 79'-81' | D | 18 | 27 | 23 | | | Gray silty fine SAND | 22 | 24" | 18" |
| | | | | | | 31 | | | | | | |
| | | | | | | | | 83' | | | | |
| | | 84'-86' | D | 2 | 4 | 4 | | | Gray Silty CLAY | 23 | 24" | 24' |
| | | | | | | 4 | | | | | | |
| | | 89'-91' | D | 2 | 3 | 5 | | | | 24 | 24" | 24' |
| | | | | | | 10 | | | | | | |
| | | | | | | | | 92' | | | | |
| | | 94'-96' | D | 50 | 40 | 31 | | | Gray fine to coarse SAND & Gravel, little silt | 25 | 24" | 15' |
| | | | | | | 33 | | | | | | |
| | | 99'-100'6" | D | 33 | 50 | 100 | | | | 26 | 18" | 12' |
| | | | | | | | | | (99' - losing 90% of Water) | | | |
| | | 104'-104'6" | D | 115 | | | | | Gray fine SAND, Silt & Gravel (compact) | 27 | 6" | 4" |
| | | 109'-111' | D | 46 | 48 | 36 | | | | 28 | 24" | 16' |
| | | | | | | 40 | | | | | | |
| | | 114'-116' | D | 33 | 50 | 53 | | | | 29 | 24" | 24' |
| | | | | | | 58 | | | | | | |
| | | | | | | | | 119' | - trace of clay | | | |

CASING: SIZE I.D. USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A-Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |

30 + Hard

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 101

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 4

TO ____ ADDRESS ____

PROJECT NAME ____ LOCATION ____

REPORT SENT TO ____ PROJ. NO. ____

SAMPLES SENT TO ____ OUR JOB NO. 89-573

DATE ____

HOLE NO. CC 101

LINE & STA. ____

OFFSET ____

SURF. ELEV. ____

GROUND WATER OBSERVATIONS

At ____ after ____ Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN ____

INSPECTOR ____

SOILS ENGR. ____

LOCATION OF BORING ____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 119'-121' | D | 46 | 70 | 70 | | | Gray fine SAND, Silt & Gravel, trace of clay (compact) | 30 | 24" | 8" |
| | | | | | | 68 | | | | | | |
| | | 124'-126' | D | 75 | 70 | 68 | | | | 31 | 24" | 18" |
| | | | | | | 95 | | | | | | |
| | | 129'-131 | D | 17 | 50 | 40 | | | | 32 | 24" | 8" |
| | | | | | | 26 | | | | | | |
| | | | | | | | | 134' | | | | |
| | | 134'-134'6" | D | 150 | | | | | Top of completely weathered Bedrock | 33 | 6" | 3" |
| | | 139'-139'3" | D | 120/3" | | | | | | 34 | 3" | 0" |
| | | 144'-144'3" | D | 150/3" | | | Min/Ft | | Core Bedrock (ARGILLITE) | 35 | 3" | 3" |
| | | 144'3" - 149'3" | C | | | | 2 | | | C1 | 60" | 27" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | 149'3" | | | | |
| | | | | | | | | | Bottom of Boring 149'3" | | | |
| | | | | | | | | | Grouted 149'3" to 50' | | | |
| | | | | | | | | | Used 9 Bags (Total) | | | |
| | | | | | | | | | Installed 2" PVC at 47' | | | |
| | | | | | | | | | Used 25' Slotted - 15' Solid | | | |
| | | | | | | | | | Ottawa Sand - Bentonite Balls | | | |
| | | | | | | | | | One 2½" Road Box | | | |
| | | | | | | | | | Grouted 18' to 4' | | | |

GROUND SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring ____
Rock Coring ____
Samples ____

HOLE NO CC 101

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 1 OF 4

TO Haley & Aldrich, Inc. ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth LOCATION Boston, Mass.

REPORT SENT TO above / Center PROJ. NO. 05746-02

SAMPLES SENT TO " OUR JOB NO. 89-573

DATE

HOLE NO. CC 102

LINE & STA.

OFFSET

SURF. ELEV. 37.31

GROUND WATER OBSERVATIONS

At 32' after 24 Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | HW-NW | S/S | |
| Size I D | 4" 3" | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | |

| | Date | Time |
|---|---|---|
| START | 7/10/89 | a.m. p.m. |
| COMPLETE | 7/17/89 | a.m. p.m. |

TOTAL HRS.

BORING FOREMAN G. Peterson

INSPECTOR V. Rubix

SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1' | Asphalt | | | |
| | | 1'-2'6" | D | 10 | 8 | 12 | | 2'6" | Gray fine to coarse SAND, trace of silt - Fill | 1 | 18" | 5" |
| | | 2'6"-3' | D | 8 | | | | | | 1A | 6" | 6" |
| | | 3'-5' | D | 10 | 11 | 13 | | | Brown to Gray Silty CLAY, some fine to coarse gravel, trace of brick, old mortar & fine to coarse sand | 2 | 24" | 11" |
| | | | | | | 12 | | | | | | |
| | | 5'-7' | D | 6 | 8 | 9 | | | | 3 | 24" | 10" |
| | | | | | | 11 | | | Fill | | | |
| | | 7'-9' | D | 10 | 6 | 8 | | | | 4 | 24" | 9" |
| | | | | | | 11 | | | | | | |
| | | 9'-11' | D | 10 | 10 | 13 | | | | 5 | 24" | 8" |
| | | | | | | 15 | | | | | | |
| | | 11'-13' | D | 11 | 14 | 15 | | 11' | | 6 | 24" | 2" |
| | | | | | | 20 | | | | | | |
| | | 13'-15' | D | 17 | 16 | 17 | | | | 7 | 24" | 7" |
| | | | | | | 15 | | | | | | |
| | | 19'-21' | D | 14 | 17 | 15 | | | Gray silty medium to fine SAND & coarse Sand | 8 | 24" | 9" |
| | | | | | | 17 | | | | | | |
| | | 24'-26' | D | 14 | 11 | 20 | | | | 9 | 24" | 18" |
| | | | | | | 32 | | | | | | |
| | | 29'-31' | D | 17 | 20 | 24 | | | | 10 | 24" | 11" |
| | | | | | | 30 | | | | | | |
| | | 34'-36' | D | 18 | 19 | 28 | | | | 11 | 24" | 12" |
| | | | | | | 40 | | 38'6" | | | | |

GROUND SURFACE TO 72'6" USED HW "CASING: THEN NW to 124' then S/S

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140lb Wt. x 30" fall on 2" O D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 125'
Rock Coring ____
Samples 29

HOLE NO CC 102

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 102

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

_____ after _____ Hours

_____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| Casing Blows per Foot | Sample Depths From – To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 39'-41' | D | 5 | 7 | 7 | | | Brown silty fine SAND | 12 | 24" | 21" |
| | | | | | 9 | | | | | | |
| | 42'-43' | UP | (200 PSI) | | | | | | U1 | 12" | 6" |
| | 43'-45' | D | 9 | 13 | 13 | | | | 13 | 24" | 18" |
| | | | | | 14 | | | | | | |
| | | | | - | | | 46' | | | | |
| | 49'-51' | D | 20 | 21 | 30 | | | Brown silty fine SAND with silty Clay Lenses | 14 | 24" | 13" |
| | | | | | 25 | | | | | | |
| | | | | | | | 54' | | | | |
| | 54'-56' | D | 21 | 26 | 36 | | | Brown silty fine SAND | 15 | 24" | 13" |
| | | | | | 35 | | | | | | |
| | 59'-61' | D | 23 | 25 | 25 | | | | 16 | 24" | 12" |
| | | | | | 26 | | | | | | |
| | 64'-66' | D | 27 | 34 | 36 | | | " color change to Gray Brown | 17 | 24" | 13" |
| | | | | | 42 | | | | | | |
| | 69'-71' | D | 28 | 32 | 32 | | | " color change to Rusty Brown | 18 | 24" | 16" |
| | | | | | 43 | | | | | | |
| | | | | | | | 73'6" | | | | |
| | 74'-76' | D | 4 | 8 | 10 | | | Gray Silty CLAY | 19 | 24" | 22" |
| | | | | | 10 | | | | | | |
| | 79'-81' | D | Wt. | Rods | 3 | 4 | | | 20 | 24" | 18" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 102

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 4
DATE
HOLE NO. CC 102
LINE & STA.
OFFSET
SURF. ELEV.

TO | ADDRESS
PROJECT NAME | LOCATION
REPORT SENT TO | PROJ. NO.
SAMPLES SENT TO | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At ____ after ____ Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 84' | | | | |
| | | 84'-84'4" | D | 120/4" | | | | | Gray clayey fine to medium SAND, some fine gravel, trace of coarse sand | 21 | 4" | 2" |
| | | | | | | | | | 89' to 94' - Falling Head Permeability Test | | | |
| | | 89'-90'6" | D | 32 | 39 | 78 | | | Gray silty fine to medium SAND, some fine gravel, trace of clay & coarse sand | 22 | 18" | 9" |
| | | 94'-95'3" | D | 70 | 50 | 100/3" | | | | 23 | 15" | 8" |
| | | | | | | | | 97' | | | | |
| | | 99'-101' | D | 67 | 47 | 33 | | | Gray fine SAND, Silt, Clay with little fine gravel (Compact) | 24 | 24" | 14' |
| | | | | | | 33 | | | | | | |
| | | 104'-106' | D | 35 | 28 | 37 | | | " trace of shells | 25 | 24" | 12' |
| | | | | | | 44 | | | | | | |
| | | 109'-110'6" | D | 46 | 48 | 86 | | | | 26 | 18" | 11" |
| | | 114'-114'10" | D | 56 | 120/4" | | | 115' | | 27 | 10" | 7" |
| | | | | | | | | 116'6" | Boulder | | | |
| | | 119'-119'3" | D | 50/3" (300# Wt.) | | | | | " Pieces of Metal from Roller Bit | 28 | 3" | 1" |

GROUND SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CC 102

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 102

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 123' | | | | |
| | | 124'-125' | D | 38 | 60/3" | 43/3" (300#) | | 125' | Gray weathered ARGILLITE | 29 | 12" | 12" |
| | | | | | | | | | Bottom of Boring 125' | | | |
| | | | | | | | | | Grout hole from 125' to 76' | | | |
| | | | | | | | | | Installed Piezometer from 72'6" | | | |
| | | | | | | | | | Installed 2" Sch. 40 PVC Well 18'6" Riser - 20' Screen | | | |
| | | | | | | | | | 6 Bags of Cement | | | |
| | | | | | | | | | 12 Bags of Ottawa Sand | | | |
| | | | | | | | | | 2 Pails of Peltonite | | | |
| | | | | | | | | | One Large Gate Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

DT=Disturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 102

EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 103

LINE & STA.

OFFSET

SURF. ELEV. 31.93

GROUND WATER OBSERVATIONS

28'6" after 12 Hours

24'3" after 24 Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | HW-NW | S/S | |
| Size I.D. | 4" 3" | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/30/89 | a.m. p.m. |
| COMPLETE | 7/3/89 | |
| TOTAL HRS. | | |

BORING FOREMAN J. Texeira

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Black Top | | | |
| | 1'-3' | D | 65 | 12 | 18 | | | Miscellaneous FILL | 1 | 24" | 9" |
| | | | | | 16 | | | | | | |
| | 3'-5' | D | 14 | 8 | 12 | | | | 2 | 24" | 9" |
| | | | | | 12 | | | | | | |
| | 5'-7' | D | 4 | 9 | 11 | | | | 3 | 24" | 13" |
| | | | | | 7 | | | | | | |
| | 7'-9' | D | 6 | 6 | 6 | | | | 4 | 24" | 9" |
| | | | | | 6 | | | | | | |
| | 9'-11' | D | 14 | 25 | 17 | | | | 5 | 24" | 6" |
| | | | | | 22 | | 11' | | | | |
| | 11'-13' | D | 26 | 31 | 41 | | | Brown fine to medium SAND, | 6 | 24" | 10" |
| | | | | | 45 | | 13' | fine Gravel & Brick - Fill | | | |
| | 13'-15' | D | 17 | 11 | 13 | | | Yellow CLAY | 7 | 24" | 9" |
| | | | | | | | | | | | |
| | 15'-17' | D | 7 | 11 | 17 | | | | 8 | 24" | 24" |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | 19'-21' | D | 6 | 7 | 7 | | | | 9 | 24" | 24" |
| | | | | | 10 | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | 23'8" | | | | |
| | 24'-26' | D | 6 | 5 | 6 | | | Blue CLAY | 10 | 24" | 24" |
| | | | | | 11 | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | 29'-30' | D | 7 | 14 | | | 30' | | 11 | 12" | 10" |
| | 30'-31' | D | 17 | 20 | | | | Brown fine SAND with very | 11A | 12" | 8" |
| | | | | | | | | thin layers of Silt | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | 34'-36' | D | 13 | 20 | 19 | | | | 12 | 24" | 18" |
| | | | | | 20 | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | 39'-41' | D | 17 | 23 | 21 | 32 | | | 13 | 24" | 16" |

GROUND SURFACE TO 40' USED HW "CASING: THEN NW to 115' - Washed & S/S

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring 129'1"
Rock Coring
Samples 31

HOLE NO CC 103

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 103

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At 32' after 72 Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 44' | | | | |
| | | 44'-46' | D | 3 | 4 | 5 | | | Gray CLAY | 14 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 48'-50' | UP | | | | | | | U1 | 24" | 24" |
| | | | | | | | | | | | | |
| | | 50'-52' | D | 5 | 7 | 8 | | | | 15 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 54'-56' | D | 4 | 7 | 8 | | | | 16 | 24" | 24" |
| | | | | | | 10 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 59'-59'6" | D | 3 | | | | 59'6" | | 17 | 6" | 6" |
| | | 59'6"-61' | D | 13 | 32 | 40 | | | Gray fine SAND, little silt | 17A | 18" | 12" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 64' | | | | |
| | | 64'-66' | D | 7 | 7 | 9 | | | Gray CLAY | 18 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 69' | | | | |
| | | 69'-71' | D | 24 | 33 | 25 | | | Gray fine SAND, some silt, Boulder | 19 | 24" | 16" |
| | | | | | | 29 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 74' | | | | |
| | | 74'-76' | D | 14 | 14 | 20 | | | Gray fine SAND & Silty Clay | 20 | 24" | 14" |
| | | | | | | 20 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 79' | | | | |
| | | 79'-81' | D | WOR | 4 | 7 | 8 | | | 21 | 24" | 24" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D = Dry C = Cored W = Washed

UP = Undisturbed Piston

TP = Test Pit A = Auger V = Vane Test

UT = Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 103

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 4

DATE

HOLE NO. CC 103

LINE & STA.

OFFSET

SURF. ELEV.

TO

PROJECT NAME

REPORT SENT TO

SAMPLES SENT TO

ADDRESS

LOCATION

PROJ. NO.

OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time | |
|---|---|---|---|
| START | | | A.M. P.M. |
| COMPLETE | | | A.M. P.M. |
| TOTAL HRS. | | | |

BORING FOREMAN

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From – To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Gray CLAY | | | |
| | | 83'-85' | UP | | | | | | | U2 | 24" | 24" |
| | | 85'-87' | D | Wt. of Rods | | | | | | 22 | 24' | 24" |
| | | | | | | | | 88' | | | | |
| | | 89'-91' | D | 30 | 39 | 41 | | | Gray fine SAND, Silt & Gravel | 23 | 24' | 24" |
| | | | | | | 46 | | | | | | |
| | | | | | | | | 93' | | | | |
| | | 94'-96' | D | 41 | 53 | 56 | | | Gray fine sandy SILT, trace clay, coarse to medium sand and fine gravel | 24 | 24' | 4" |
| | | | | | | 61 | | | | | | |
| | | 99'-101' | D | 102/2" | | *21/4" | | | | 25 | 24' | 4" |
| | | | | *20 | *31 | *50 | | | | | | |
| | | 104'-106' | D | 111/4" | | *29/2" | | | | 26 | 24" | 8" |
| | | | | *22 | *27 | *20 | | | | | | |
| | | 109'-111' | D | 115 | *19 | *25 | | | | 27 | 24" | 10" |
| | | | | | | *27 | | | | | | |
| | | 114'-115' | D | 106/3" | | *41/3" | | | | 28 | 12" | 10" |
| | | | | | | *105 | | | | | | |
| | | 119'-119'1" | D | 65/1" | | (120/0") | | | | 29 | 1" | 0" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
T: Undisturbed Piston
P: Undisturbed A: Auger V: Vane Test
U: Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CC 103

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 4 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 103

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From – To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | TILL | | | |
| | | 124'-125'6" | D | 52 | 100/3" | *57/3" | | | | 30 | 18" | 14" |
| | | | | | | *132 | | | | | | |
| | | 129'-129'1" | D | *150 | | | | 129'1" | | 31 | 1" | 0" |
| | | | | | | | | | Refusal - Bottom of Boring 129'1" | | | |
| | | | | | | | | | Installed 2" PVC 40'6" | | | |
| | | | | | | | | | 20' Slotted - 20' Plain | | | |
| | | | | | | | | | 4 Bags of Ottawa Sand | | | |
| | | | | | | | | | Grout 129' to 40' | | | |
| | | | | | | | | | Installed 2x2 Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |

30 + Hard

SUMMARY

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 103

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

111 WATER STREET EAST PROVIDENCE R.I.

SHEET 1 OF 4

DATE

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

HOLE NO. CC 104

LINE & STA.

OFFSET

SURF. ELEV. 33.73

GROUND WATER OBSERVATIONS

At 23' 7/5/89 AM after ____ Hours

114' NW Casing

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | PW-HW | S/S | NV II |
| Size I.D. | NW | 1-3/8" | split |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 6/29/89 | a.m. |
| COMPLETE | 7/5/89 | p.m. |
| TOTAL HRS. | | |

BORING FOREMAN G.Brouillette

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0'-1' | D | 13 | 100 | | | | 1" Black Top | 1 | 12" | 9" |
| | | | | | | | | | Brown fine to medium SAND, | | | |
| | | 2'-4' | D | 10 | 10 | 10 | | | Brick & Cement - Fill | 2 | 24" | 6" |
| | | | | | | 5 | | | | | | |
| | | 4'-4'9" | D | 8 | 100/3" | | | | (Refusal at 4'9" - Cement) | 3 | 9" | 3" |
| | | 9'-10'9" | D | 9 | 26 | 32 | | | Brick & Old Cement | 4 | 21" | 18" |
| | | | | | | 100/3" | | | | | | |
| | | | | | | | | 12'6" | | | | |
| | | 13'-15' | D | 40 | 49 | 50 | | | Brown fine SAND & Silt, | 5 | 24" | 12" |
| | | | | | | 51 | | | trace of clay | | | |
| | | | | | | | | 17' | | | | |
| | | 19'-21' | D | 7 | 8 | 8 | | | Brown Silty CLAY, trace | 6 | 24" | 24" |
| | | | | | | 9 | | | of fine sand layers | | | |
| | | 24'-26' | D | 3 | 5 | 7 | | | " & fine Sand | 7 | 24" | 24" |
| | | | | | | 8 | | | | | | |
| | | 29'-31' | D | 8 | 13 | 14 | | | | 8 | 24" | 12" |
| | | | | | | 16 | | | | | | |
| | | 34'-36' | D | 5 | 10 | 17 | | | | 9 | 24" | 24" |
| | | | | | | 19 | | | | | | |
| | | | | | | | | 37' | | | | |
| | | 39'-41' | D | 9 | 15 | 19 | 20 | | Brown fine SAND, little silt | 10 | 24" | 24" |

GROUND SURFACE TO 4' USED PW "CASING: THEN HW to 19' then NW to 124'

Sample Type
D=Dry C=Cored W=Washed
P=Undisturbed Piston
P=Test Pit A=Auger V=Vane Test
T=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY
Earth Boring 129'
Rock Coring 10'
Samples 27

HOLE NO CC 104

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 104

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 43' | | | | |
| | | 44'-46' | D | 4 | 5 | 5 | | | Gray Silty CLAY | 11 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | 49'-51' | D | 3 | 4 | 5 | | | | 12 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 54'-56' | D | 3 | 6 | 6 | | 55'10" | - Sand Layer | 13 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | | | | | | | 58' | | | | |
| | | 59'-61' | D | 15 | 26 | 24 | | | Reddish Brown fine SAND, some silt | 14 | 24" | 24" |
| | | | | | | 29 | | | | | | |
| | | 64'-66' | D | 18 | 22 | 24 | | | " & Silt | 15 | 24" | 20" |
| | | | | | | 29 | | 66' | | | | |
| | | 69'-71' | D | 11 | 15 | 11 | | | Gray fine SAND, some silt 4" clay layer | 16 | 24" | 18" |
| | | | | | | 11 | | 72' | | | | |
| | | 74'-76' | D | Wt. | Rods | 2 | | | Gray Silty CLAY | 17 | 24" | 24" |
| | | | | | | 3 | | | | | | |
| | | 79'-81' | D | Wt. | of Rods | | 2 | | | 18 | 24" | 24" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 104

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 3 OF 4
DATE
HOLE NO. CC 104
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At ——— after ——— Hours

At ——— after ——— Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Gray Silty CLAY | | | |
| | | 84'-85'6" | D | Wt. | of Rods | | | 85'6" | | 19 | 18" | 18" |
| | | 85'6"-86' | D | 14 | | | | | Gray fine to medium SAND & Silt, some clay | 19A | 6" | 6" |
| | | | | | | | | 89' | | | | |
| | | 89'-90'6" | D | 61 | 56 | 75 | | | Gray fine to medium SAND, Silt & Gravel, little clay (compact) | 20 | 18" | 18" |
| | | 94'-96' | D | 34 | 36 | 27 | | | | 21 | 24" | 18" |
| | | | | | | 40 | | | | | | |
| | | | | | | | | 98' | | | | |
| | | 99'-101' | D | 27 | 41 | 88 | | | Gray fine sandy SILT, little coarse to medium sand, trace to fine gravel with cobbles | 22 | 24" | 18" |
| | | | | | | 43 | | | | | | |
| | | 104'-104'6" | D | 113 | | | | | | 23 | 6" | 6" |
| | | 109'-109'6" | D | 119 | | | | | | 24 | 6" | 6" |
| | | | | | | | | 114' | | | | |
| | | 114'-116' | D | 40 | 47 | 53 | | | Gray fine SAND, Silt & Clay, little fine gravel (compact) | 25 | 24" | 18" |
| | | | | | | 68 | | | | | | |
| | | | | | | | | 119' | | | | |
| | | 119'-119'6" | D | 126 | | | | | | 26 | 6" | 6" |

GROUND SURFACE TO ——— USED ——— "CASING: THEN ———

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A-Auger V=Vane Test
UT-Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CC 104

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 4 OF 4
DATE
HOLE NO. CC 104
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At _____ after ____ Hours
At _____ after ____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Gray fine to medium SAND, Silt & Gravel, little clay (compact) | | | |
| | | 124'-124'6" | D | 120 | | | | | " trace fine gravel | 27 | 6" | 6" |
| | | | | | | | | 126' | | | | |
| | | | | | | | | | Core Bedrock (ARGILLITE) | | | |
| | | 129'-134' | C | | | | Min/Ft 4 | | | C1 | 60" | 60" |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | 134'-139' | C | | | | 5 | | | C2 | 60" | 60" |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | 139' | | | | |
| | | | | | | | | | Bottom of Boring 139' | | | |
| | | | | | | | | | Grouted Hole 139' | | | |
| | | | | | | | | | Used 12 Bags of Cement | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring
Rock Coring
Samples

HOLE NO CC 104

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 105

LINE & STA.

OFFSET

SURF. ELEV. 35.92

GROUND WATER OBSERVATIONS

21'6" 6/22/89 AM after Hours

19' HW after Hours

after Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | PW-HW | S/S | |
| Size I.D. | NW | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | |

| | Date | Time |
|---|---|---|
| START | 6/20/89 | a.m. p.m. |
| COMPLETE | 6/28/89 | |
| TOTAL HRS. | | |
| BORING FOREMAN | G.Brouillette | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING

| Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6"-1' | D | 14 | 100/0" | | | 1" | Black Top | | | |
| | | | | | | | | Brick - FILL | 1 | 6" | 6" |
| | 2'-4' | D | 5 | 4 | 4 | | | | 2 | 24" | 2" |
| | | | | | 3 | | | | | | |
| | 4'-6' | D | 3 | 2 | 1 | | | | 3 | 24" | 0" |
| | | | | | 1 | | 6' - | Steel, Wood, Cement & | | | |
| | 6'-8' | D | 4 | 2 | 2 | | | Glass - FILL | 4 | 24" | 2" |
| | | | | | 2 | | | | | | |
| | 8'-10' | D | 1 | 8 | 5 | | | | 5 | 24" | 4" |
| | | | | | 6 | | | | | | |
| | 10'-12' | D | 2 | 10 | 8 | | | | 6 | 24" | 4" |
| | | | | | 13 | | 12' | | | | |
| | 12'-14' | D | 15 | 15 | 16 | | | Brown fine to medium SAND | 7 | 24" | 18" |
| | | | | | 18 | | 14' | & Gravel, some silt | | | |
| | 14'-15'6" | D | 20 | 23 | 26 | | 15'6" | Brown fine SAND, trace silt | 8 | 18" | 12" |
| | 15'6"-16' | D | 30 | | | | | | 8A | 6" | 4" |
| | | | | | | | 17' | Brown fine SAND, Silt & Clay | | | |
| | 19'-21' | D | 10 | 10 | 11 | | | Yellow Brown Silty CLAY | 9 | 24" | 24" |
| | | | | | 12 | | | | | | |
| | | | | | | | 23' | | | | |
| | 24'-26' | D | 4 | 4 | 4 | | | Grayish fine SAND, some | 10 | 24" | 24" |
| | | | | | 4 | | | silt, trace of clay in | | | |
| | | | | | | | 27' | layers | | | |
| | 29'-31' | D | 15 | 18 | 13 | | | Brownish fine SAND, trace | 11 | 24" | 24" |
| | | | | | 16 | | | of silt | | | |
| | | | | | | | 34' - | clay in layers | | | |
| | 34'-36' | D | 6 | 15 | 30 | | | | 12 | 24" | 24" |
| | | | | | 32 | | | | | | |
| | | | | | | | 38' | | | | |
| | 39'-39'6" | D | 3 | | | | | Yellow Brown Silty CLAY | 13 | 6" | 6" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D = Driven W = Washed

P = Pushed Piston

R = Test Pit A = Auger V = Vane Test

T = Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:

Earth Boring 129'

Rock Coring 9'

Samples 30

HOLE NO CC 105

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4
DATE
HOLE NO. CC 105
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At 35'6" 6/23/89 after Hours
95' NW
At after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'6"-41' | D | 4 | 5 | 6 | | | Gray Silty CLAY | 13A | 18" | 18" |
| | | 41'-43' | UP | | | | | | | UP1 | 24" | 24" |
| | | 43'-45' | D | 2 | 3 | 4 | | | | 14 | 24" | 24" |
| | | | | | | 5 | | | | | | |
| | | | | | | | | | 42.1' - Pressure Meter Test | | | |
| | | 49'-50'6" | D | 2 | 3 | 3 | | | | 15 | 18" | 18" |
| | | 50'6"-51' | D | 7 | | | | 50'6" / 52' | Gray fine to medium SAND | 15A | 6" | 6" |
| | | 54'-56' | D | 8 | 11 | 16 | | | Brown fine SAND, little silt | 16 | 24" | 18" |
| | | | | | | 22 | | | | | | |
| | | 59'-61' | D | 8 | 13 | 18 | | | | 17 | 24" | 18" |
| | | | | | | 20 | | | | | | |
| | | 64'-66' | D | 15 | 21 | 20 | | | | 18 | 24" | 24" |
| | | | | | | 41 | | | | | | |
| | | | | | | | | 68' | | | | |
| | | 69'-71' | D | 13 | 19 | 21 | | | color change to Gray | 19 | 24" | 18" |
| | | | | | | 33 | | | | | | |
| | | 74'-76' | D | 17 | 22 | 20 | | | | 20 | 24" | 24" |
| | | | | | | 38 | | | | | | |
| | | 79'-81' | D | 26 | 30 | 28 | 38 | | | 21 | 24" | 20" |

GROUND SURFACE TO USED "CASING: THEN

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CC 105

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 3 OF 4

DATE

HOLE NO. CC 105

LINE & STA.

OFFSET

SURF. ELEV.

TO

ADDRESS

PROJECT NAME

LOCATION

REPORT SENT TO

PROJ. NO.

SAMPLES SENT TO

OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN

INSPECTOR

SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84'-86' | D | 25 | 37 | 31 | | | Gray fine SAND, some silt | 22 | 24" | 20" |
| | | | | | | 36 | | | | | | |
| | | | | | | | | 87' | | | | |
| | | 89'-91' | D | 25 | 38 | 18 | | | Gray fine sandy SILT, little clay, coarse to medium sand, coarse to fine gravel | 23 | 24" | 12" |
| | | | | | | 16 | | | 89' to 94' - Falling Head Permeability Test | | | |
| | | 94'-95'6" | D | 38 | 22 | 34 | | | | 24 | 18" | 6" |
| | | | | | | | | | 96.5' - Pressure Meter Test | | | |
| | | | | | | | | 98' | | | | |
| | | 99'-101' | D | 44 | 65 | 70 | | | Gray silty medium to fine SAND, little coarse sand, fine gravel and clay | 25 | 24" | 18" |
| | | | | | | 75 | | | | | | |
| | | 104'-104'6" | D | 150 | | | | | Gray fine SAND, some silt & fine to medium gravel, cobbles | 26 | 6" | 6" |
| | | 109'-110'4" | D | 47 | 88 | 100/4" | | | " trace clay | 27 | 16" | 12" |
| | | | | | | | | 114' | | | | |
| | | 114'-115' | D | 70 | 135 | | | | Gray fine SAND & Silt, trace of clay & fine gravel, cobbles | 28 | 12" | 9" |
| | | 119'-121' | D | 35 | 36 | 45 | 75 | | | 29 | 24" | 20" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NOCC 105

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 4 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 105

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | Gray fine SAND, Silt & Clay, trace of fine gravel, cobbles | | | |
| | | 124'-125'1" | D | 51 | 28 | 100/1" | | | | 30 | 13" | 9" |
| | | | | | | | | 127' | | | | |
| | | | | | | | | | Core Bedrock (ARGILLITE) | | | |
| | | @ 129' | D | 100/0" | | | Min/Ft | | | | | |
| | | 129'-133' | C | | | | 4 | | | C1 | 48" | 42' |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 5 | | | | | |
| | | 133'-138' | C | | | | 4 | | | C2 | 60" | 60' |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | 138' | | | | |
| | | | | | | | | | Bottom of Boring 138' | | | |
| | | | | | | | | | Grouted 138' to 100' 2 Bags | | | |
| | | | | | | | | | Installed Piezometer @ 97' Bentonite & Ottawa Sand | | | |
| | | | | | | | | | Grouted 90' to 50' | | | |
| | | | | | | | | | Installed 2" PVC at 40' 15' Slotted - 25' Solid | | | |
| | | | | | | | | | Grouted 22' to 0' | | | |
| | | | | | | | | | Installed one 5" Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 105

PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 106

LINE & STA.

OFFSET

SURF. ELEV. 35.79

GROUND WATER OBSERVATIONS

At 20' 6/9/89 AM after ____ Hours

14' HW

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | PW-HW | S/S | NV II |
| Size I.D. | NW | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 6/8/89 | a.m. p.m. |
| COMPLETE | 6/13/89 | |
| TOTAL HRS. | | |
| BORING FOREMAN | G. Brouillette | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0'-2' | D | 5 | 12 | 14 | | | 1" Black Top - Brown fine to medium Sand, Gravel, Red Brick & Cement - Fill | 1 | 24" | 6" |
| | | | | | | 40 | | | | | | |
| | | 2'-4' | D | 6 | 7 | 10 | | | | 2 | 24" | 6" |
| | | | | | | 10 | | | | | | |
| | | 4'-5' | D | 15 | 100 | | | | | 3 | 12" | 0" |
| | | | | | | | | | Wood, Steel & Cement Fill | | | |
| | | 9'-11' | D | 41 | 1 | 1 | | | | 4 | 24" | 6" |
| | | | | | | 3 | | 11' | | | | |
| | | 11'-13' | D | 7 | 8 | 9 | | | Brown fine to coarse Sand Fill | 5 | 24" | 12" |
| | | | | | | 13 | | 14' | | | | |
| | | 14'-16' | D | 8 | 7 | 13 | | | Yellow Silty CLAY to Gray with fine Sand to Yellow Gray silty fine Sand | 6 | 24" | 20" |
| | | | | | | 13 | | | | | | |
| | | 19'-21' | D | 7 | 5 | 7 | | | | 7 | 24" | 24" |
| | | | | | | 10 | | | | | | |
| | | | | | | | | 24' | | | | |
| | | 24'-26' | D | 15 | 14 | 20 | | | Orange Brown fine SAND | 8 | 24" | 12" |
| | | | | | | 22 | | | | | | |
| | | | | | | | | 29' | | | | |
| | | 29'-31' | D | 10 | 14 | 18 | | | Brown fine SAND, trace of silt | 9 | 24" | 12" |
| | | | | | | 26 | | | | | | |
| | | 34'-35' | D | 12 | 9 | | | 35' | | 10 | 12" | 6" |
| | | 35'-36' | D | 8 | 10 | | | | Gray Silty CLAY | 10A | 12" | 6" |
| | | 39'-40' | D | 9 | 18 | | | 40' | | 11 | 12" | 12" |

GROUND SURFACE TO 9' USED PW "CASING: THEN HW to 14', Open & NW

Sample Type
D=Dry C=Cored W=Washed
JP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 130'
Rock Coring 5'
Samples 29

HOLE NO CC 106

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 106

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At 10' 6/12/89 AM after _____ Hours

107' NW

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40'-41' | D | 18 | 20 | | | | Brown silty fine SAND | 11A | 12" | 12" |
| | | | | | | | | 44' | | | | |
| | | 44'-46' | D | 22 | 19 | 19 | | | Brown fine to medium SAND, Silt & Clay mixed | 12 | 24" | 18" |
| | | | | | | 18 | | | | | | |
| | | | | | | | | 48' | | | | |
| | | 49'-51' | D | 3 | 4 | 7 | | | Gray Silty CLAY, trace of fine sand lenses | 13 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | 54'-56' | D | 2 | 5 | 4 | | | | 14 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 59'-61' | D | 1 | 3 | 4 | | | | 15 | 24" | 24" |
| | | | | | | 4 | | | | | | |
| | | 64'-66' | D | 1 | 1 | 1 | | | | 16 | 24" | 24" |
| | | | | | | 3 | | | Occasional sand lenses and partings | | | |
| | | 69'-71' | D | 1 | 1 | 2 | | | | 17 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 74'-76' | D | 1 | 4 | 6 | | | | 18 | 24" | 24" |
| | | | | | | 6 | | | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
: Dry C = Cored W = Washed
P = Undisturbed Piston
P = Test Pit A = Auger V = Vane Test
T = Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 106

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 106

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 79'-81' | D | 1 | 1 | 1 | | | | 19 | 24" | 24" |
| | | | | | | 3 | | 82' | | | | |
| | | 84'-86' | D | 20 | 48 | 35 | | | Gray silty fine to medium SAND & fine Gravel (compact) | 20 | 24" | 12" |
| | | | | | | 24 | | | | | | |
| | | 89'-91' | D | 45 | 41 | 40 | | | | 21 | 24" | 18" |
| | | | | | | 70 | | | | | | |
| | | | | | | | | 93' | | | | |
| | | 94'-94'9" | D | 60 | 100/3" | | | | Gray fine sandy SILT, trace coarse to medium sand, coarse to fine gravel | 22 | 9" | 6" |
| | | 99'-100' | D | 53 | 100 | | | | | 23 | 12" | 9" |
| | | 104'-106' | D | 37 | 48 | 50 | | | | 24 | 24" | 18" |
| | | | | | | 77 | | 107' | | | | |
| | | 109'-110'6" | D | 44 | 57 | 100 | | | Gray fine to medium SAND, Clayey Silt & fine to medium Gravel | 25 | 18" | 12" |
| | | 114'-115'3" | D | 34 | 80 | 100/3" | | | " little fine gravel | 26 | 15" | 9" |
| | | 119'-119'9" | D | 63 | 100/3" | | | | | 27 | 9" | 9" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 106

TOWN PRESS — EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 4 OF 4
DATE
HOLE NO. CC 106
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO

ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 124' | | | | |
| | | 124'-124'6" | D | 100 | | | | | Gray very weathered ARGILLITE, trace of Till mixed in | 28 | 6" | 6" |
| | | 129'-129'3" | D | 150/3" | | | Min/Ft | 130' | | 29 | 3" | 3" |
| | | 130'-135' | C | | | | 4 | | Core Bedrock (ARGILLITE) | C1 | 60 | 30" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | 135' | | | | |
| | | | | | | | | | Bottom of Boring 135' | | | |
| | | | | | | | | | Grouted 135' to 90' | | | |
| | | | | | | | | | " 77' to 40' | | | |
| | | | | | | | | | " 10' to 5' | | | |
| | | | | | | | | | Installed Piezometer @ 84' | | | |
| | | | | | | | | | Installed 2" PVC Well @ 35' | | | |
| | | | | | | | | | 20' Slotted - 20' Solid | | | |
| | | | | | | | | | 7 Bags of Ottawa Sand | | | |
| | | | | | | | | | One Pail of Bentonite Balls | | | |
| | | | | | | | | | 6 Bags of Cement | | | |
| | | | | | | | | | One 5" Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CC 106

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 4 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 106

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From – To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 124' | | | | |
| | | 124'-124'6" | D | 100 | | | | | Gray very weathered ARGILLITE, trace of Till mixed in | 28 | 6" | 6" |
| | | 129'-129'3" | D | 150/3" | | | Min/Ft | 130' | | 29 | 3" | 3" |
| | | 130'-135' | C | | | | 4 | | Core Bedrock (ARGILLITE) | C1 | 60 | 30" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | 135' | | | | |
| | | | | | | | | | Bottom of Boring 135' | | | |

Grouted 135' to 90'

" 77' to 40'

" 10' to 5'

Installed Piezometer @ 84'

Installed 2" PVC Well @ 35'

20' Slotted - 20' Solid

7 Bags of Ottawa Sand

One Pail of Bentonite Balls

6 Bags of Cement

One 5" Road Box

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D: Dry C: Cored W: Washed

UP Undisturbed Piston

TP: Test Pit A-Auger V: Vane Test

UT: Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NOCC 106

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 1 OF 5

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 107

LINE & STA.

OFFSET

SURF. ELEV. 32.76

GROUND WATER OBSERVATIONS

At 19'5" after 12 Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | PW-HW | S/S | D/T |
| Size I D | NW | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 6/22/89 | a.m. p.m. |
| COMPLETE | 6/30/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | J. Texeira | |
| INSPECTOR | S. Kelley | |
| SOILS ENGR. | | |

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1'9" | Cobblestone & Cement | | | |
| | | | | | | | | | Cellar 15' to Floor | | | |
| | | | | | | | | 17' | | | | |
| | | 17'-19' | D | 6 | 7 | 9 | | | Yellow CLAY | 1 | 24" | 24' |
| | | | | | | 9 | | | | | | |
| | | 19'-21' | D | 3 | 3 | 8 | | | | 2 | 24" | 18" |
| | | | | | | 9 | | | | | | |
| | | | | | | | | 24' | | | | |
| | | 24'-26' | D | 14 | 19 | 19 | | | Yellow CLAY mixed layer of very fine sand | 3 | 24" | 18" |
| | | | | | | 36 | | | | | | |
| | | | | | | | | 29' | | | | |
| | | 29'-31' | D | 10 | 14 | 19 | | | Gray fine to medium SAND, trace of oil | 4 | 24" | 18" |
| | | | | | | 22 | | | | | | |
| | | 31'-32' | D | 10 | 16 | | | 32' | | 5 | 12" | 12" |
| | | 32'-33' | D | 17 | 26 | | | | Brown SILT - CLAY, trace of very fine sand | 5A | 12" | 12" |
| | | | | | | | | 35' | | | | |
| | | 34'-35' | D | 10 | 20 | | | | | 6 | 12" | 10" |
| | | 35'-36' | D | 24 | 25 | | | | | 6A | 12" | 8" |
| | | | | | | | | 38'7" | | | | |

GROUND SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 125'
Rock Coring 39'9"
Samples 24

HOLE NOCC 107

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 5

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 107

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At 20'4" after 72 Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From – To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'-41' | D | 5 | 5 | 6 | | | | 7 | 24" | 24" |
| | | | | | | 9 | | | Gray CLAY | | | |
| | | 44'-46' | D | 4 | 4 | 5 | | | | 8 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 49'-51' | D | 5 | 4 | 5 | | | | 9 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | 54'-56' | D | 3 | 4 | 5 | | | | 10 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | 59'-61' | D | 4 | 5 | 8 | | | | 11 | 24" | 24" |
| | | | | | | 9 | | | | | | |
| | | | | | | | | 63'3" | | | | |
| | | 64'-66' | D | 17 | 20 | 22 | | | | 12 | 24" | 14" |
| | | | | | | 22 | | | Gray fine to medium SAND | | | |
| | | 69'-71' | D | 18 | 19 | 20 | | | | 13 | 24" | 18" |
| | | | | | | 23 | | | | | | |
| | | 74'-76' | D | 23 | 33 | 55 | | | | 14 | 24" | 12" |
| | | | | | | 40 | | | | | | |
| | | | | | | | | 77'7" | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
U=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 107

W. PRESS EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 5

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 107

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From To 0-6 | 6-12 | 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 79'-81' | D | 3 | 5 | 9 | | | Blue CLAY, trace of very fine gravel | 15 | 24" | 24' |
| | | | | | | 14 | | 83' | | | | |
| | | 84'-86' | D | 26 | 39 | 44 | | | Gray silty fine to medium SAND, some clay | 16 | 24" | 3" |
| | | | | | | 47 | | 88' | | | | |
| | | 89'-91' | D | 37 | 40 | 44 | | | Gray fine sandy SILT, little coarse to medium sand, coarse to fine gravel, with cobbles | 17 | 24" | 13" |
| | | | | | | 46 | | | | | | |
| | | 94'-96' | D | 49 | 51 | 56 | | | | 18 | 24" | 10" |
| | | | | | | 37 | | | 96.3' - Pressure Meter Test | | | |
| | | 99'-101' | D | 49 | 53 | 59 | | | | 19 | 24" | 18" |
| | | | | | | 66 | | | | | | |
| | | 104'-105'6" | D | 49 | 51 | 56 | | | 106.0' - Pressure Meter Test | 20 | 18" | 12" |
| | | 109'-111' | D | 66 | 69 | 71 | | | | 21 | 24" | 18" |
| | | | | | | 88 | | | | | | |
| | | 114'-114'8" | D | 100/1" | 101/5" | | 100/2" | | | 22 | 8" | 8" |
| | | | | | (300# Weight) | | | | | | | |
| | | | | | | (300#) | | | | | | |
| | | 119'-120' | D | 120 | 100/1" | 55/5" | | | | 23 | 12" | 12" |

TO HARD SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 107

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 5

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 107

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 122.7' - Pressure Meter Test | | | |
| | | | | | (300#) | | | 124' | | | | |
| | | 124'-125' | D | 160 | 111 | | Min/Ft | | | 24 | 12" | 12" |
| | | 125'-130' | C | | | | 5 | | Core Bedrock (ARGILLITE) | C1 | 60" | 36" |
| | | | | | | | 10 | | | | | |
| | | | | | | | 10 | | | | | |
| | | | | | | | 11 | | | | | |
| | | | | | | | 11 | | | | | |
| | | 130'-133'10" | C | | | | 15 | | 132.2' - Pressure Meter Test | C2 | 46" | 48" |
| | | | | | | | 10 | | | | | |
| | | | | | | | 10 | | | | | |
| | | | | | | | 11 | | | | | |
| | | 133'10" - 137'6" | C | | | | 17 | | | C3 | 44" | 44" |
| | | | | | | | 15 | | | | | |
| | | | | | | | 15 | | | | | |
| | | | | | | | 11 | | | | | |
| | | 137'6" - 142'6" | C | | | | 10 | | | C4 | 60" | 58" |
| | | | | | | | 11 | | | | | |
| | | | | | | | 11 | | | | | |
| | | | | | | | 15 | | | | | |
| | | | | | | | 15 | | | | | |
| | | 142'6" - 146'2" | C | | | | 10 | | | C5 | 44" | 46" |
| | | | | | | | 5 | | | | | |
| | | | | | | | 10 | | | | | |
| | | 146'2" - 150'9" | C | | | | 6 | | | C6 | 55" | 55" |
| | | | | | | | 8 | | | | | |
| | | | | | | | 10 | | | | | |
| | | | | | | | 21 | | | | | |
| | | | | | | | 7 | | | | | |
| | | 150'9" - 155'9" | C | | | | 5 | | | C7 | 60" | 54" |
| | | | | | | | 6 | | | | | |
| | | | | | | | 14 | | | | | |
| | | | | | | | 10 | | | | | |
| | | 155'9" - 159'9" | C | | | | 7 | | | C8 | 48" | 41" |
| | | | | | | | 9 | | | | | |
| | | | | | | | 11 | | | | | |
| | | | | | | | 12 | | | | | |
| | | | | | | | 21 | | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A-Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 107

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 5 OF 5

TO _____ | ADDRESS _____

PROJECT NAME _____ | LOCATION _____

REPORT SENT TO _____ | PROJ. NO. _____

SAMPLES SENT TO _____ | OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 107

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | A.M. P.M. |
| COMPLETE | | A.M. P.M. |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 159'9" - 164'9" | C | | | | 10<br>12<br>10<br>11<br>12 | 164'9" | ARGILLITE | C9 | 60' | 59 |
| | | | | | | | | | Bottom of Boring 164'9" | | | |
| | | | | | | | | | Grout 64' - 40' - 24' | | | |
| | | | | | | | | | Installed Piezometer 72' Piez. No. 679 | | | |
| | | | | | | | | | Grout from 164'9" to 73' | | | |
| | | | | | | | | | Installed 2" PVC 41' | | | |
| | | | | | | | | | 20' Slotted - 20' Plain | | | |
| | | | | | | | | | 7 Bags of Ottawa Sand | | | |
| | | | | | | | | | One 5" Road Box | | | |
| | | | | | | | | | 7 Bags of Cement | | | |
| | | | | | | | | | 2 Cases of Pellets | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 107

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 108

LINE & STA.

OFFSET

SURF. ELEV. 34.52

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | HW-NW | S/S | D/T |
| Size I.D. | 4" 3" | 1-3/8" | |
| Hammer Wt | Drilled | 140# | BIT |
| Hammer Fall | | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 5/22/89 | a.m. p.m. |
| COMPLETE | 5/30/89 | a.m. p.m. |

TOTAL HRS.

BORING FOREMAN J. Texeira

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" | Black Top | | | |
| | | 6"-2'6" | D | 24 | 22 | 22 | | | Brick - Wood - Cinders Fill | 1 | 24" | 12" |
| | | | | | | 26 | | | | | | |
| | | 2'6"-4'6" | D | 56 | 35 | 16 | | | | 2 | 24" | 14" |
| | | | | | | 31 | | | | | | |
| | | 4'6"-6'6" | D | 32 | 42 | 17 | | | | 3 | 24" | 13" |
| | | | | | | 16 | | | | | | |
| | | 6'6"-8'6" | D | 9 | 9 | 11 | | | | 4 | 24" | 10" |
| | | | | | | 7 | | | | | | |
| | | 8'6"-10'6" | D | 4 | 4 | 28 | | | | 5 | 24" | 6" |
| | | | | | | 14 | | | | | | |
| | | 10'6"-12'6" | D | 15 | 17 | 14 | | 12'6" | | 6 | 24" | 8" |
| | | | | | | 12 | | | | | | |
| | | 12'6"-14'6" | D | 18 | 22 | 23 | | | Yellow CLAY with fine Sand Layers, trace of gravel | 7 | 24" | 9" |
| | | | | | | 21 | | | | | | |
| | | 14'6"-16'6" | D | 10 | 16 | 12 | | | | 8 | 24" | 24" |
| | | | | | | 12 | | | | | | |
| | | 19'-21' | D | 14 | 18 | 16 | | | | 9 | 24" | 1" |
| | | | | | | 18 | | | | | | |
| | | 24'-26' | D | 20 | 55 | 60/3" | | | | 10 | 24" | 0" |
| | | | | | *8/3" | *12 | | | (Boulder) | | | |
| | | (* denotes 300# Wt. on Spoon) | | | | | | | | | | |
| | | 29'-31' | D | 26 | 34 | 14 | | | | 11 | 24" | 1" |
| | | | | | | 15 | | | | | | |
| | | | | | | | | 34' | (Lost Water 34') | | | |
| | | 34'-36' | D | 18 | 23 | 31 | | | Rusty Brown fine SAND, little silt & medium sand | 12 | 24" | 12" |
| | | | | | | 18 | | | | | | |
| | | | | | | | | 39' | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D-Dry C-Cored W-Washed
U-Undisturbed Piston
T-Test Pit A-Auger V-Vane Test
UT-Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring 24'7"
Rock Coring 15'
Samples 29

HOLE NO CC 108

PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 108

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a m / p m |
| COMPLETE | | a m / p m |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock - color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'-41' | D | 6 | 7 | 8 | | | Gray CLAY | 13 | 24" | 16' |
| | | | | | | 9 | | | | | | |
| | | 44'-46' | D | 4 | 3 | 4 | | | | 14 | 24" | 24' |
| | | | | | | 5 | | | | | | |
| | | 49'-51' | D | 1 | 1 | 1 | | | | 15 | 24" | 18' |
| | | | | | | 1 | | | | | | |
| | | 54'-56' | D | 1 | 1 | 1 | | | | 16 | 24" | 18' |
| | | | | | | 1 | | | | | | |
| | | 59'-61' | D | 1 | 1 | 1 | | | | 17 | 24" | 18' |
| | | | | | | 2 | | | | | | |
| | | | | | | | | 64' | | | | |
| | | 64'-66' | D | 24 | 31 | 30 | | | Gray Brown silty fine SAND | 18 | 24" | 24' |
| | | | | | | 33 | | | | | | |
| | | 69'-71' | D | 26 | 20 | 47 | | | | 19 | 24" | 24' |
| | | | | | | 44 | | | | | | |
| | | | | | | | | 74' | | | | |
| | | 74'-76' | D | 5 | 4 | 6 | | | Gray CLAY | 20 | 24" | 24' |
| | | | | | | 9 | | | | | | |
| | | 79'-80'10" | D | 6 | 8 | 11 | | 80'10" | | 21 | 22" | 22' |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D = Dry C = Cored W = Washed

UP = Undisturbed Piston

TP = Test Pit A = Auger V = Vane Test

UT = Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 108

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 4
DATE
HOLE NO. CC 108
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At _____ after _____ Hours
At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 80'10"-81' | D | 11 | | | | | Gray Clayey SILT, fine Sand & Gravel | 21A | 2" | 2" |
| | | | | | | | | 84' | | | | |
| | | 84'-86' | D | 28 | 60/2" | *26/4" | | | Gray fine SAND, Silt & Gravel - Till | 22 | 24 | 18" |
| | | | | | *26 | *28 | | | 86.8' - Pressure Meter Test | | | |
| | | 89'-91' | D | 56 | 61 | 69 | | | | 23 | 24 | 14" |
| | | | | | | 72 | | | | | | |
| | | 94'-95'6" | D | 143 | *41 | *53 | | | | 24 | 18 | 12" |
| | | (* denotes 300# Wt. on Spoon) | | | | | | | 97.8' - Pressure Meter Test | | | |
| | | 99'-100'6" | D | 51 | 126 | *36 | | | | 25 | 18 | 8" |
| | | | | | | | | | 102.2' - Pressure Meter Test | | | |
| | | 104'-105'6" | D | 156 | *48 | *51 | | | | 26 | 18 | 14" |
| | | | | | | | | | 106.7' - Pressure Meter Test | | | |
| | | 109'-110'6" | D | 160 | *75 | *89 | | | | 27 | 18 | 12" |
| | | | | | | | | | 111.7' - Pressure Meter Test | | | |
| | | | No | Test | Stand by | | | | | | | |
| | | 114'-114'4" | D | 100/0" | *175/4' | | | | | 28 | 4" | 4" |
| | | 119'-120' | D | 110 | *151 | | | | | 29 | 12" | 12" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A-Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY
Earth Boring
Rock Coring
Samples

HOLE NO CC 108

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 4
DATE
HOLE NO. CC 108
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO

ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Coring Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 123'8" | | | | |
| | | @ 124' | D | 100/0" | | | Min/Ft | | | | | |
| | | 124'7" - 127'7" | C | | | | 6 6 8 | | Core Bedrock (ARGILLITE) | C1 | 36" | 8" |
| | | 127'7" - 132'7" | C | | | | 5 7 7 8 7 | | | C2 | 60" | 0" |
| | | 132'7" - 137'7" | C | | | | 7 7 8 7 7 | | | C3 | 60" | 18" |
| | | 137'7" - 139'7" | C | | | | 8 9 | 139'7" | | C4 | 24" | 12" |
| | | | | | | | | | Bottom of Boring 139'7" | | | |
| | | | | | | | | | Grouted from 139'7" to 0' 6 Bags of Cement | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 108

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 5

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 109

LINE & STA.

OFFSET

SURF. ELEV. 33.88

GROUND WATER OBSERVATIONS

At 28' 5/23/89 AM after ____ Hours 19' HW Casing

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | PW-HW | S/S | NV II |
| Size I D | NW | 1-3/8" | split |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 5/22/89 | a.m. p.m. |
| COMPLETE | 5/26/89 | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN G. Brouillette

INSPECTOR

SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 1" Black Top - 1" Cement | | | |
| | | 6"-2' | D | 12 | 14 | 15 | | | Brick Fill & Cement | 1 | 18" | 10" |
| | | 2'-4' | D | 5 | 9 | 9 | | | some Wood - Fill | 2 | 24' | 6" |
| | | | | | | 9 | | | | | | |
| | | 4'-6' | D | 14 | 4 | 4 | | | | 3 | 24' | 6" |
| | | | | | | 6 | | | | | | |
| | | 6'-8' | D | 13 | 4 | 8 | | | | 4 | 24' | 6" |
| | | | | | | 6 | | | | | | |
| | | 8'-10' | D | 4 | 1 | 1 | | | | 5 | 24' | 2" |
| | | | | | | 1 | | | | | | |
| | | 10'-12' | D | 2 | 8 | 16 | | | | 6 | 24' | 3" |
| | | | | | | 8 | | 12' | | | | |
| | | 12'-14' | D | 13 | 13 | 14 | | | Yellow Silty CLAY, trace | 7 | 24' | 10" |
| | | | | | | 15 | | | of fine sand | | | |
| | | 14'-16' | D | 2 | 4 | 6 | | | | 8 | 24' | 24" |
| | | | | | | 9 | | | | | | |
| | | 16'-18' | D | 8 | 10 | 12 | | | | 9 | 24' | 24" |
| | | | | | | 18 | | | | | | |
| | | | | | | | | | | | | |
| | | 19'-21' | D | 5 | 5 | 6 | | | | 10 | 24' | 24" |
| | | | | | | 7 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 24' | | | | |
| | | 24'-26' | D | 9 | 10 | 14 | | | Brown fine to medium SAND, | 11 | 24' | 18" |
| | | | | | | 15 | | | trace of silt | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 29'-31' | D | 13 | 22 | 28 | | | | 12 | 24' | 18" |
| | | | | | | 36 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 34'-36' | D | 11 | 16 | 7 | | | | 13 | 24' | 18" |
| | | | | | | 11 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 37'6" | | | | |
| | | | | | | | | | Gray CLAY, trace of silt | | | |
| | | 39'-41' | D | 2 | 3 | 3 | 7 | | trace of medium gravel | 14 | 24' | 24" |

GROUND SURFACE TO 14' USED PW "CASING: THEN HW to 19', Open then NW to 119'

Sample Type
D = Dry C = Cored W = Washed
UP = Undisturbed Piston
TP = Test Pit A = Auger V = Vane Test
UT = Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring 120'
Rock Coring 41'6"
Samples 30

HOLE NO CC 109

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 5
DATE
HOLE NO. CC 109
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

| | | |
|---|---|---|
| 14'6" | 5/24/89 AM after ___ Hours | 84' NW Casing |
| 31' | 5/24/89 AM after ___ Hours | 119' NW Casing |

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING:

| Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 41'-42'6" | U | | | | | | Gray CLAY, trace of silt, trace of medium gravel | U1 | 18" | 17" |
| | 44'-46' | D | 2 | 2 | 4 | | | | 15 | 24" | 24" |
| | | | | | 7 | | | | | | |
| | 49'-51' | D | 2 | 3 | 6 | | | | 16 | 24" | 24" |
| | | | | | 6 | | | | | | |
| | 54'-56' | D | 1 | 1 | 3 | | | | 17 | 24" | 24" |
| | | | | | 5 | | | | | | |
| | 56'-57'6" | U | | | | | | | U2 | 18" | 12" |
| | 59'-60' | D | 1 | 6 | | | 60' | | 18 | 12" | 12" |
| | 60'-61' | D | 18 | 24 | | | | Gray fine SAND, little silt | 18A | 12" | 12" |
| | 64'-66' | D | 18 | 27 | 26 | | | | 19 | 24" | 24" |
| | | | | | 30 | | | | | | |
| | | | | | | | 68' | | | | |
| | 69'-71' | D | 4 | 3 | 4 | | | Gray Silty CLAY | 20 | 24" | 24" |
| | | | | | 5 | | | | | | |
| | | | | | | | | 72' to 74' - Falling Head Permeability Test | | | |
| | 74'-76' | D | 1 | 2 | 4 | | | | 21 | 24" | 24" |
| | | | | | 8 | | | | | | |
| | | | | | | | 77'6" | | | | |
| | 79'-81' | D | 21 | 19 | 20 | 51 | | | 22 | 24" | 18" |

GROUND SURFACE TO ___ USED ___ "CASING: THEN ___

Sample Type
D=Dry C=Cored W=Washed
U=Undisturbed Piston
T=Test Pit A=Auger V=Vane Test
P=Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring ___
Rock Coring ___
Samples ___

HOLE NO. CC 109

PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 5
DATE
HOLE NO. CC 109
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At ____ after ____ Hours
At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Gray fine to medium SAND & Silt, some gravel, trace of clay | | | |
| | | 84'-86' | D | 30 | 35 | 51 | | | | 23 | 24" | 20' |
| | | | | | | 60 | | | | | | |
| | | | | | | | | | 87' to 89' - Falling Head Permeability Test | | | |
| | | 89'-91' | D | 34 | 25 | 37 | | | | 24 | 24" | 18' |
| | | | | | | 45 | | | | | | |
| | | 94'-95' | D | 73 | 129 | | | | Gray fine SAND & Silt, some clay & gravel | 25 | 12" | 12' |
| | | 99'-101' | D | 22 | 84 | 52 | | | | 26 | 24" | 18' |
| | | | | | | 100 | | | | | | |
| | | 104'-104'6" | D | 130 | | | | | | 27 | 6" | 6" |
| | | 109'-110'6" | D | 32 | 64 | 140 | | | " trace of weathered Argillite mixed | 28 | 18" | 18' |
| | | | | | | | | 113' | | | | |
| | | 114'-116' | D | 48 | 56 | 70 | | | Gray very weathered ARGILLITE | 29 | 24" | 20' |
| | | | | | | 150 | | | | | | |
| | | | | | | | | | 117' to 119' - Falling Head Permeability Test | | | |
| | | 119'-119'1" | D | 100/1" | | | | | | 30 | 1" | 1" |

CASING SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY
Earth Boring
Rock Coring
Samples

HOLE NO CC 109

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 5

DATE

HOLE NO. CC 109

LINE & STA.

OFFSET

SURF. ELEV.

TO | ADDRESS

PROJECT NAME | LOCATION

REPORT SENT TO | PROJ. NO.

SAMPLES SENT TO | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN

INSPECTOR

SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Min/Ft | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 120'-125' | C | | | | 2 | | Gray ARGILLITE | C1 | 60" | 30" |
| | | | | | | | 2 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | 125'-130' | C | | | | 3 | | | C2 | 60" | 54" |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 4 | | | | | |
| | | 130'-135' | C | | | | 3 | | | C3 | 60" | 36" |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | 135'-140' | C | | | | 3 | | | C4 | 60" | 40" |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | 140'-143'6" | C | | | | 3 | | | C5 | 42" | 28" |
| | | | | | | | 3 | | | | | |
| | | | | | | | 4 1/6" | | | | | |
| | | 143'6" - 146'6" | C | | | | 3 | | | C6 | 36" | 27" |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | 146'6" - 151'6" | C | | | | 3 | | | C7 | 60" | 36" |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | 151'6" - 156'6" | C | | | | 3 | | | C8 | 60" | 18" |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | 156'6" | | | | |
| | | 156'6" - 161'6" | C | | | | 3 | | CONGLOMERATE | C9 | 60" | 31" |
| | | | | | | | 3 | | | | | |
| | | | | | | | 3 | | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D = Dry C = Cored W = Washed

UP = Undisturbed Piston

TP = Test Pit A = Auger V = Vane Test

UT = Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 109

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 5 OF 5
DATE
HOLE NO. CC 109
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after ____ Hours

At _____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 4 | | | | | |
| | | | | | | | 3 | 161'6" | | | | |
| | | | | | | | | | Bottom of Boring 161'6" | | | |
| | | | | | | | | | Grouted 161'6" to 90' Used 2 Bags of Cement 5/25/89 | | | |
| | | | | | | | | | Installed Piezometer @ 88' Grouted - Ottawa Sand - Bentonite Balls | | | |
| | | | | | | | | | Installed PVC Well @ 38' 25' Solid - 15' Slotted 6 Bags of Ottawa Sand | | | |
| | | | | | | | | | Total Used: 5 Bags of Cement One Pail of Bentonite Balls One Large Gate Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY
Earth Boring
Rock Coring
Samples

HOLE NO CC 109

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 1 OF 5

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 110

LINE & STA.

OFFSET

SURF. ELEV.

GROUND WATER OBSERVATIONS

At 25' after 12 Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | HW-NW | S/S | D/T |
| Size I.D. | 4" 3" | 1-3/8" | |
| Hammer Wt | Drill | 140# | BIT |
| Hammer Fall | | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 5/16/89 | |
| COMPLETE | 7/17/89 | |
| TOTAL HRS. | | |

BORING FOREMAN J. Texeira

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" | Black Top | | | |
| | | 1'-3' | D | 10 | 7 | 5 | | | Cinder, Brick, fine Sand loose Gravel - FILL | 1 | 24" | 6" |
| | | | | | | 5 | | | | | | |
| | | 3'-5' | D | 7 | 9 | 8 | | | | 2 | 24" | 8" |
| | | | | | | 3 | | | | | | |
| | | 5'-7' | D | 2 | 4 | 9 | | | | 3 | 24" | 3" |
| | | | | | | 10 | | | | | | |
| | | 7'-9' | D | 3 | 3 | 8 | | | Brick FILL | 4 | 24" | 9" |
| | | | | | | 11 | | | | | | |
| | | 9'-11' | D | 5 | 11 | 7 | | | | 5 | 24" | 6" |
| | | | | | | 10 | | | | | | |
| | | 11'-13' | D | 3 | 6 | 6 | | | | 6 | 24" | 8" |
| | | | | | | 12 | | | | | | |
| | | 13'-15' | D | 2 | 5 | 18 | | | | 7 | 24" | 8" |
| | | | | | | 18 | | | | | | |
| | | 15'-17' | D | 6 | 7 | 9 | | | | 8 | 24" | 1" |
| | | | | | | 13 | | | | | | |
| | | 17'-19' | D | 16 | 23 | 27 | | | | 9 | 24" | 14" |
| | | | | | | 30 | | 19' | | | | |
| | | | | | | | | 20' | Brick | | | |
| | | 20'-22' | D | 9 | 10 | 14 | | | Blue CLAY | 10 | 24" | 24" |
| | | | | | | 22 | | | | | | |
| | | 24'-26' | D | 4 | 5 | 5 | | | | 11 | 24" | 24" |
| | | | | | | 11 | | | | | | |
| | | | | | | | | 29' | | | | |
| | | 29'-31' | D | 5 | 8 | 14 | | | Gray fine to medium SAND 6" layer of Brown fine to medium Sand | 12 | 24" | 24" |
| | | | | | | 19 | | | | | | |
| | | | | | | | | 34' | | | | |
| | | 34'-36' | D | 12 | 15 | 14 | | | Brown medium SAND | 13 | 24" | 16' |
| | | | | | | 16 | | | | | | |
| | | | | | | | | 39' | | | | |

GROUND SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 121'3"
Rock Coring 49'9"
Samples 30

HOLE NOCC 110

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 5

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 110

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'-41' | D | 4 | 6 | 10 | | | Blue CLAY | 14 | 24" | 24' |
| | | | | | | 9 | | | | | | |
| | | 44'-46' | D | 6 | 7 | 9 | | | | 15 | 24" | 18' |
| | | | | | | 10 | | | | | | |
| | | 49'-51' | D | 2 | 2 | 4 | | | | 16 | 24" | 24' |
| | | | | | | 7 | | | | | | |
| | | 54'-56' | D | 1 | 2 | 3 | | | | 17 | 24" | 20' |
| | | | | | | 5 | | | | | | |
| | | 59'-61' | D | Wt. | of Rods | | | | | 18 | 24" | 24' |
| | | 64'-66' | D | Wt. | of Rods | | | | | 19 | 24" | 24' |
| | | 69'-71' | D | 1 | Wt. | Rods | | | | 20 | 24" | 24' |
| | | 74'-76' | D | Wt. | of Rods | | | | | 21 | 24" | 20' |
| | | | | | | | | 78'10" | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D = Drive C = Cored W = Washed

P = Pressed Jetted Piston

A = Auger V = Vane Test

U = Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 110

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 5

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 110

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From – To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 79'-81' | D | 27 | 37 | 47 | | | Gray fine to coarse SAND, fine to medium Gravel mixed with Blue Silt | 22 | 24" | 24' |
| | | | | | | 40 | | | | | | |
| | | 84'-85'6" | D | 24 | 17 | 18 | | | 82' to 84' - Falling Head Permeability Test | 23 | 18" | 8" |
| | | 89'-90'6" | D | 84 | 56 | 64 | | | 87.0' - Pressure Meter Test | 24 | 24" | 6" |
| | | 94'-94'2" | D | 101 | /0" | 150/2" | | | 92.0' - Pressure Meter Test | 25 | 2" | 0" |
| | | | | | | (300#) | | | | | | |
| | | | | | | | | | 97.0' - Pressure Meter Test | | | |
| | | 99'-100'6" | D | 65 | 100 | 30 | | | 97'-99' - Falling Head Permeability Test | 26 | 18" | 9" |
| | | 100'6"-101' | D | 43 | | (300#) | | 100'6" | - Boulder | 26A | 6" | 3" |
| | | | | (300#) | | | | | | | | |
| | | | | | | (300# Wt.) | | | | | | |
| | | 104'-105'6" | D | 110/2" | 90/4" | 80 | | | 105.7' - Pressure Meter Test | 27 | 18" | 14" |
| | | | | | | 75 | | | | | | |
| | | | | | (300# Wt.) | | | | | | | |
| | | 109'-111' | D | 110 | 25 | 19 | | | | 28 | 24" | 8" |
| | | | | | | 15 | | | | | | |
| | | @ 114' | D | 100 | /0" | | | | | | | |
| | | 114'-115'6" | D | 34 | 39 | 56 | | | | 29 | 18" | - |
| | | | | 300# Weight | | | | | | | | |
| | | 119'-120' | D | 115 | /5" 7 | /1" 100 | | 119'10" | | 30 | 12" | 12" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

S=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |

30 + Hard

SUMMARY

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 110

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 5

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 110

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Min/Ft | | | | | |
| | | 121'3" - 124'6" | C | | | | 5 | | ARGILLITE | C1 | 39" | 26" |
| | | | | | | | 7 | | | | | |
| | | | | | | | 12 | | | | | |
| | | | | | | | 23 | | | | | |
| | | 124'6"-129' | C | | | | 19 | | 124.6' - Pressure Meter Test | C2 | 54" | 48" |
| | | | | | | | 18 | | | | | |
| | | | | | | | 20 | | | | | |
| | | 129'-132' | C | | | | 8 | | | C3 | 36" | 36" |
| | | | | | | | 7 | | | | | |
| | | | | | | | 20 | | | | | |
| | | 132'-134' | C | | | | 13 | | | C4 | 24" | 24" |
| | | | | | | | 25 | | | | | |
| | | 134'-137' | C | | | | 15 | | | C5 | 36" | 36" |
| | | | | | | | 22 | | | | | |
| | | | | | | | 23 | | | | | |
| | | 137'-138'4" | C | | | | 17 | | | C6 | 16" | 16" |
| | | | | | | | 20 | | | | | |
| | | 138'4" - 141'11" | C | | | | 10 | | | C7 | 43" | 46" |
| | | | | | | | 14 | | | | | |
| | | | | | | | 11 | | | | | |
| | | 141'11" - 145'2" | C | | | | 13 | | | C8 | 39" | 39" |
| | | | | | | | 15 | | | | | |
| | | | | | | | 15 | | | | | |
| | | 145'2" - 148'3" | C | | | | 20 | | | C9 | 37" | 37" |
| | | | | | | | 15 | | | | | |
| | | | | | | | 12 | | | | | |
| | | 148'3" - 151'5" | C | | | | 13 | | | C10 | 38" | 38" |
| | | | | | | | 23 | | | | | |
| | | | | | | | 17 | | | | | |
| | | 151'5" - 153'5" | C | | | | 10 | | | C11 | 24" | 24" |
| | | | | | | | 5 | | | | | |
| | | 153'5"-156' | C | | | | 18 | | | C12 | 31" | 27" |
| | | | | | | | 15 | | | | | |
| | | | | | | | 20 | | | | | |
| | | 156'-161' | C | | | | 16 | | | C13 | 60" | 58" |
| | | | | | | | 16 | | | | | |
| | | | | | | | 12 | | | | | |
| | | | | | | | 15 | | | | | |
| | | | | | | | 14 | | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 110

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 5 OF 5
DATE
HOLE NO. CC 110
LINE & STA.
OFFSET
SURF. ELEV.

TO
ADDRESS
PROJECT NAME
LOCATION
REPORT SENT TO
PROJ. NO.
SAMPLES SENT TO
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

M after Hours

M after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 11 | | | | | |
| | | 161'-166' | C | | | | 10 | | ARGILLITE | C14 | 60" | 56" |
| | | | | | | | 5 | | | | | |
| | | | | | | | 10 | | | | | |
| | | | | | | | 10 | | | | | |
| | | | | | | | 15 | | | | | |
| | | 166'-171' | C | | | | 15 | | | C15 | 60" | 57" |
| | | | | | | | 15 | | | | | |
| | | | | | | | 20 | | | | | |
| | | | | | | | 17 | | | | | |
| | | | | | | | 15 | 171' | | | | |
| | | | | | | | | | Bottom of Boring 171' | | | |
| | | | | | | | | | Installed Piezometer 96'2" Piez. No. 677 | | | |
| | | | | | | | | | Grout from 171' to 98'6" | | | |
| | | | | | | | | | Installed 2" PVC 40'6" 20' Slotted - 20' Plain 9 Bags of Ottawa Sand One 5" Road Box 2½ Cases of Pellets | | | |

GROUND SURFACE TO USED "CASING: THEN

Sample Type
D: Dry C: Cored W: Washed
U: Undisturbed Piston
T: Test Pit A: Auger V: Vane Test
S: Split Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring
Rock Coring
Samples

HOLE NO CC 110

EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC-111

LINE & STA.

OFFSET

SURF. ELEV. 30.26

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | PW NW | S/S | NV II split |
| Size I.D. | HW 3" | 1-3/8" | |
| Hammer Wt. | Spun 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 7/26/89 | a.m. |
| COMPLETE | 8/4/89 | p.m. |
| TOTAL HRS. | | |

BORING FOREMAN K. F. & G. B.

INSPECTOR Kara Dowe

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 3"-2' | D | 22 | 27 | 14 | | 3" | Tar | | | |
| | | | | | | 17/3' | | | Brick, coarse to fine Sand, some cement - FILL | 1 | 21" | 8" |
| | | 2'-4' | D | 12 | 32 | 26 | | | | 2 | 24" | 6" |
| | | | | | | 60 | | | | | | |
| | | 4'-6' | D | 18 | 31 | 26 | | | | 3 | 24" | 4" |
| | | | | | | 30 | | | | | | |
| | | 6'-8' | D | 2 | 23 | 22 | | | Gray Cement, coarse to fine Sand, trace brick | 4 | 24" | 3" |
| | | | | | | 20 | | | | | | |
| | | 8'-10' | D | 12 | 30 | *74 | | | | 5 | 24" | 3" |
| | | | | | | 100 | | 10'3" | | | | |
| | | 10'-10'3" | D | 100 | *30/0" | | | | (Obstruction) | 6 | 3" | 0" |
| | | 12'6"-14'6" | D | 16 | 12 | 13 | | 12'6" | | 7 | 24" | 12" |
| | | | | | | 15 | | | | | | |
| | | 14'6"-16'6" | D | 25 | 55 | 36 | | | | 8 | 24" | 24" |
| | | | | | | 55 | | | | | | |
| | | | | | | | | 19' | | | | |
| | | 19'-21' | D | 4 | 6 | 6 | | | Gray CLAY | 9 | 24" | 12" |
| | | | | | | 8 | | | | | | |
| | | 24'-26' | D | 4 | 6 | 8 | | | Gray CLAY, frequent fine sand partings | 10 | 24" | 24" |
| | | | | | | 12 | | 29' | | | | |
| | | 29'-31' | D | 5 | 7 | 9 | | | Gray fine SAND, some silt, little clay | 11 | 24" | 24" |
| | | | | | | 15 | | | | | | |
| | | | | | | | | 34' | | | | |
| | | 34'-36' | D | 10 | 15 | 16 | | | Brown medium to fine SAND Layers | 12 | 24" | 10" |
| | | | | | | 17 | | 38' | | | | |
| | | 39'-41' | D | 4 | 5 | 5 | 6 | | Gray CLAY, little silt | 13 | 24" | 10" |

* denotes 300# Weight on Spoon

GROUND SURFACE TO 10' USED PW "CASING: THEN HW to 14' then NW

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring 112'6"
Rock Coring 28'
Samples 27

HOLE NO. CC-111

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC-111

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Gray CLAY | | | |
| | | 44'-46' | D | 14 | 12 | 12 | | | | 14 | 24" | 0" |
| | | | | | | 14 | | | | | | |
| | | 49'-51' | D | 1 | 4 | 5 | | | | 15 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 54'-56' | D | 3 | 11 | 8 | | | | 16 | 24" | 8" |
| | | | | | | 8 | | | | | | |
| | | | | | | | | 58' | | | | |
| | | 59'-61' | D | 31 | 46 | 24 | | | " & fine to medium Sand Layers | 17 | 24" | 10" |
| | | | | | | 25 | | | | | | |
| | | | | | | | | 64' | | | | |
| | | 64'-66' | D | 7 | 6 | 5 | | | Gray CLAY, some silt | 18 | 24" | 12" |
| | | | | | | 6 | | | | | | |
| | | 69'-70'10" | D | 4 | 6 | 5 | | | | 19 | 22" | 22" |
| | | 70'10"-71' | | | | 16 | | 70'10" | | 19A | 2" | 2" |
| | | | | | | | | | Gray clayey fine SAND, trace coarse to medium sand | | | |
| | | 74'-76' | D | 35 | 53 | 75 | | | | 20 | 24" | 24" |
| | | | | | | 90 | | | | | | |
| | | | | | | | | 78' | | | | |
| | | 79'-81' | D | 16 | 33 | 41 | 37 | | | 21 | 24' | 6" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D: Dry C: Cored W: Washed

UP: Undisturbed Piston

TP: Test Pit A: Auger V: Vane Test

UT: Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC-111

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC-111

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a m / p m |
| COMPLETE | | a m / p m |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84'-84'9" | D | 120 | *30/3" | | | | Gray silty fine to medium SAND & Gravel, trace of clay | 22 | 9" | 6" |
| | | | | | | | | | 85.7' - Pressure Meter Test | | | |
| | | 89'-91' | D | 95 | 51 | 61 | | | | 23 | 24" | 14" |
| | | | | | | 84 | | | | | | |
| | | 94'-95'6" | D | 65 | 62 | 100 | | | " little gravel & clay | 24 | 18" | 12" |
| | | | | | | | | | 95.9' - Pressure Meter Test | | | |
| | | | | | | | | 98' | | | | |
| | | 99'-100' | D | 80 | 130 | | | | | 25 | 12" | 12" |
| | | 104'-106' | D | 22 | 30 | 40 | | | Gray SILT & CLAY, trace of fine sand & gravel | 26 | 24" | 24" |
| | | | | | | 45 | | | | | | |
| | | 109'-109'3" | D | 100/3" | | | | 109' | | 27 | 3" | 2" |
| | | | | | | | Min/Ft | | Core Bedrock (ARGILLITE) | | | |
| | | 112'6" - 115'6" | C | | | | 4 | | | C1 | 36" | 30" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 5 | | 114.2' - Pressure Meter Test | | | |
| | | 115'6" - 118'6" | C | | | | 5 | | | C2 | 36" | 30" |
| | | | | | | | 6 | | | | | |
| | | | | | | | 5 | | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A-Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |

30 + Hard

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 111

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 4

TO _____ | ADDRESS _____ | DATE _____

PROJECT NAME _____ | LOCATION _____ | HOLE NO. CC-111

REPORT SENT TO _____ | PROJ. NO. _____ | LINE & STA. _____

SAMPLES SENT TO _____ | OUR JOB NO. 89-573 | OFFSET _____ | SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING _____

| Hammer Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 118'6" - 120'6" | C | | | | 5 5 5 | | Gray ARGILLITE | C3 | 24" | 23' |
| | 120'6" - 125'6" | C | | | | 5 5 5 4 | | | C4 | 60" | 58' |
| | 125'6" - 130'6" | C | | | | 5 6 6 6 | | | C5 | 60" | 36' |
| | 130'6" - 135'6" | C | | | | 5 5 5 6 6 | | | C6 | 60" | 52' |
| | 135'6" - 140'6" | C | | | | 6 6 6 6 6 6 | | | C7 | 60" | 10' |
| | | | | | | 6 | 140'6" | | | | |

Bottom of Boring 140'6"

Grouted 140'6" to 107'
Installed Piezometer 104.8'
Bentonite Balls - Ottawa Sand
Grouted 100' to 41'
Bentonite & Ottawa Sand
Installed 2" PVC 40'
Ottawa Sand - Bentonite
Grouted 18' - Red Dye
20' Slotted - 20' Solid
7 Bags of Ottawa Sand
9 Bags of Cement
2½ Pails of Bentonite Balls
One Large Road Box

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC-111

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 112

LINE & STA.

OFFSET

SURF. ELEV. 29.58

GROUND WATER OBSERVATIONS

At 24' after Hours

At after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | HW-NW | S/S | NV II |
| Size I.D. | 4" 3" | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 8/22/89 | A.M. P.M. |
| COMPLETE | 9/6/89 | |
| TOTAL HRS. | | |
| BORING FOREMAN | M. Gunning | |
| INSPECTOR | S. Kelly | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 6" | Cement | | | |
| | | | | | | | | | Black Gravel | | | |
| | | | | | | | | 3' | Concrete | | | |
| | | | | | | | | | Brick/Steel Beam | | | |
| | | | | | | | | | Void - Basement | | | |
| | | | | | | | | 12'6" | | | | |
| | | | | | | | | 13' | Cement | | | |
| | | | | | | | | 15' | No sample taken | | | |
| | | 15'-17' | D | 5 | 5 | 6 | | | | 1 | 24" | 24" |
| | | | | | | 7 | | | Gray Silty CLAY, frequent fine sand partings | | | |
| | | 20'-22' | D | 7 | 8 | 6 | | | Gray Silty CLAY, frequent fine sand partings | 2 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | 25'-27' | D | 5 | 8 | 5 | | | Gray Silty CLAY | 3 | 24" | 18" |
| | | | | | | 7 | | | | | | |
| | | 30'-32' | D | 8 | 9 | 10 | | | Gray Silty CLAY, frequent layers and partings of fine sand | 4 | 24" | 20" |
| | | | | | | 13 | | 33' | | | | |
| | | 35'-37' | D | 11 | 19 | 20 | | | Brown fine SAND, little silt | 5 | 24" | 8" |
| | | | | | | 16 | | | | | | |
| | | | | | | | | 38'6" | | | | |

GROUND SURFACE TO USED "CASING: THEN

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test P or V: Vane Test
UT: Und soil

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V. Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring 120'
Rock Coring 12.2'
Samples 21

HOLE NO CC 112

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 112

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From To 0-6 | 6-12 | 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40'-42' | D | 4 | 6 | 7 | | | No Recovery - probable clay | 6 | 24" | 0' |
| | | | | | | 8 | | | | | | |
| | | | | | | | | 42'6" | | | | |
| | | 45'-47' | D | 5 | 8 | 11 | | | Mottled Gray fine SAND, little silt | 7 | 24" | 12" |
| | | | | | | 13 | | | | | | |
| | | 50'-52' | D | 18 | 21 | 21 | | | | 8 | 24" | 12" |
| | | | | | | 22 | | | Mottled Gray fine SAND, little silt | | | |
| | | 55'-57' | D | 10 | 10 | 14 | | | Gray SAND, little silt | 9 | 24" | 20" |
| | | | | | | 29 | | | | | | |
| | | 60'-62' | D | 21 | 23 | 19 | | | Gray SAND, little silt | 10 | 24" | 24" |
| | | | | | | 21 | | | | | | |
| | | | | | | | | 65' | | | | |
| | | 65'-67' | D | 3 | 4 | 5 | | | Gray Silty CLAY | 11 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 70'-72' | D | 2 | 3 | 4 | | | | 12 | 24" | 24" |
| | | | | | | 5 | | | | | | |
| | | | | | | | | 75' | | | | |
| | | 75'-77' | D | 23 | 51 | 32 | | | Gray Clayey SILT, little fine sand, trace coarse to medium sand, coarse to fine gravel with cobbles | 13 | 24" | 12" |
| | | | | | | 60 | | | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D = Dry C = Cored W = Washed

UP = Undisturbed Piston

TP = Test Pit A = Auger V = Vane Test

UT = Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 112

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 112

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 79'-79'6" | D | 28 | | | | | Gray fine sandy SILT, little clay, trace coarse to fine gravel, coarse to med. sand | 14 | 6" | 6" |
| | | | | | | | | 79'6" | | | | |
| | | 79'6"-8'-11" | D | 50 | 84 | 124/5" | | | Gray silty fine SAND, lit. clay, coarse to medium sand trace coarse to fine gravel with cobbles 80.2' to 85.2'- Falling Head Permeability Test | 14A | 18" | 12" |
| | | 84'-85'6" | D | 19 | 35 | 104 | | | Gray silty fine SAND, little clay | 15 | 18" | 2" |
| | | 89'-90'6" | D | 34 | 45 | 63 | | | Gray silty fine SAND, little clay | 16 | 18" | 8" |
| | | 94'-95'3" | D | 149 | 189 | 150/3" | | | Gray fine SAND, little silt trace coarse to medium sand | 17 | 15" | 12" |
| | | 99'6"-100'4" | D | 90 | 100/4" | | | | Gray silty fine SAND, trace coarse to medium sand, coarse to fine gravel 102.2'-Pressure Meter Test | 18 | 10" | 8" |
| | | 105'-105'5" | D | 200/5" | | | | | No Recovery (Cobble at 108.4'-109') | 19 | 5" | 0" |
| | | 110'5" - 110'6" | D | 75/1" | | | | | No Recovery (Cobbles 110.4'-113.5') | 20 | 1" | 0" |
| | | | | | | | | 114'8" | | | | |
| | | 115'-115'4" | D | 156/4" | | | | | Gray coarse gravel to medium sand sized ARGILLITE fragments trace fine sand, silt 115'-Pressure Meter Test | 21 | 4" | 2" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 112

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 112

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time | |
|---|---|---|---|
| START | | | A.M. P.M. |
| COMPLETE | | | A.M. P.M. |
| TOTAL HRS. | | | |
| BORING FOREMAN | | | |
| INSPECTOR | | | |
| SOILS ENGR. | | | |

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Min/Ft | 120' | | | | |
| | | 120'-121'8" | C | | | | 18 | | Core Bedrock | C1 | 20" | 20" |
| | | | | | | | 12 | | (ARGILLITE) | | | |
| | | 121'8"-123'8" | C | | | | 14 | | | C2 | 24" | 22" |
| | | | | | | | 17 | | | | | |
| | | 123'8"-128'2" | C | | | | 15 | | | C3 | 54" | 54" |
| | | | | | | | 14 | | | | | |
| | | | | | | | 18 | | | | | |
| | | | | | | | 15 | | | | | |
| | | 128'2"-132'2" | C | | | | 11 | | | C4 | 48" | 45" |
| | | | | | | | 15 | | | | | |
| | | | | | | | 15 | | | | | |
| | | | | | | | 15 | | | | | |
| | | | | | | | 19 | 132'-2" | | | | |
| | | | | | | | | | Bottom of Boring 132'-2" | | | |
| | | | | | | | | | Grout 132' to Surface | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 112

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 4

TO Haley & Aldrich, Inc. ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth LOCATION Boston, Mass.

REPORT SENT TO above / Center PROJ. NO. 05746-02

SAMPLES SENT TO " OUR JOB NO. 89-573

DATE

HOLE NO. CC 113

LINE & STA.

OFFSET

SURF. ELEV. 31.37

GROUND WATER OBSERVATIONS

At 17' 6/6/89 AM after ___ Hours

14' HW Casing

At ___ after ___ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | PW-HW | S/S | NV II |
| Size I D | NW | 1-3/8" | split |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 6/5/89 | ___ AM/PM |
| COMPLETE | 6/8/89 | ___ AM/PM |
| TOTAL HRS. | | |

BORING FOREMAN G. Brouillette

INSPECTOR

SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0'-6" | C | (5" | Thinwall) | | | | Cement Slab | C | 6" | 6" |
| | | | | | | | | | (Void) | | | |
| | | | | | | | | 9' | | | | |
| | | | | | | | | 9'6" | 5" Slab | | | |
| | | 9'6"-11'6" | D | 6 | 10 | 15 | | 11'6" | Brown fine to medium SAND | 1 | 24" | 18" |
| | | | | | | 11 | | | | | | |
| | | 11'6"-13'6" | D | 10 | 12 | 20 | | | Brown fine SAND & Silt, | 2 | 24" | 24" |
| | | | | | | 20 | | 14' | some clay | | | |
| | | 14'-16' | D | 13 | 11 | 11 | | | | 3 | 24" | 24" |
| | | | | | | 13 | | | | | | |
| | | 19'-21' | D | 3 | 3 | 6 | | | Gray Silty CLAY, trace of | 4 | 24" | 24" |
| | | | | | | 5 | | | fine sand lenses | | | |
| | | | | | | | | 24' | | | | |
| | | 24'-26' | D | 9 | 9 | 12 | | | Brown fine SAND, trace of | 5 | 24" | 24" |
| | | | | | | 15 | | | clay in layers & silt | | | |
| | | 29'-31' | D | 15 | 14 | 17 | | | | 6 | 24" | 12" |
| | | | | | | 20 | | | | | | |
| | | | | | | | | 34' | | | | |
| | | 34'-36' | D | 14 | 14 | 10 | | | Gray Brown Silty CLAY, | 7 | 24" | 18" |
| | | | | | | 10 | | | trace of fine sand | | | |

GROUND SURFACE TO 14' USED PW "CASING: THEN HW to 15' then NW Casing & Cored

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring 111'
Rock Coring 10'
Samples 22

HOLE NO CC 113

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 113

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At 28' 6/7/89 AM after ____ Hours 94' NW Casing

At _____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'-41' | D | 3 | 4 | 5 | | | Gray Silty CLAY | 8 | 24' | 24 |
| | | | | | | 5 | | | | | | |
| | | 44'-46' | D | 3 | 5 | 5 | | | | 9 | 24' | 24" |
| | | | | | | 5 | | | | | | |
| | | 49'-51' | D | 3 | 3 | 4 | | | | 10 | 24' | 24" |
| | | | | | | 4 | | | | | | |
| | | 54'-56' | D | 3 | 3 | 4 | | | | 11 | 24' | 24" |
| | | | | | | 5 | | | | | | |
| | | 59'-61' | D | 1 | 3 | 3 | | | | 12 | 24' | 24" |
| | | | | | | 4 | | | | | | |
| | | 64'-66' | D | 1 | 1 | 2 | | | | 13 | 24' | 24" |
| | | | | | | 2 | | | | | | |
| | | | | | | | | 67'6" | - 12" Boulder | | | |
| | | 69'-71' | D | 31 | 55 | 80 | | | Gray fine to medium SAND & Silt, some gravel, trace of clay | 14 | 24' | 18" |
| | | | | | | 120 | | | | | | |
| | | 74'-76' | D | 100 | 50 | 50 | | | | 15 | 24' | 12" |
| | | | | | | 120 | | | | | | |
| | | 79'-81' | D | 25 | 51 | 68 | 73 | | | 16 | 24' | 20" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D = Dry C = Cored W = Washed
UP = Undisturbed Piston
TP = Test Pit A = Auger V = Vane Test
U = Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 113

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 3 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 113

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a m / p m |
| COMPLETE | | a m / p m |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 79' to 84' - Falling Head Permeability Test | | | |
| | | 84'-86' | D | 34 | 45 | 34 | | | Gray fine SAND & Clayey Silt, trace fine gravel | 17 | 24" | 12" |
| | | | | | | 50 | | | | | | |
| | | 89'-91' | D | 30 | 35 | 41 | | | " little medium gravel | 18 | 24" | 22" |
| | | | | | | 100 | | | | | | |
| | | | | | | | | 94' | | | | |
| | | 94'-96' | D | 30 | 50 | 63 | | | Brown Gray fine SAND & Silt, some fine to medium gravel & coarse sand, little clay | 19 | 24" | 18" |
| | | | | | | 63 | | 96' | | | | |
| | | 99'-101' | D | 47 | 57 | 89 | | | completely weathered Bedrock | 20 | 24" | 20" |
| | | | | | | 101 | | | | | | |
| | | 104'-104'6" | D | 150 | | | | | | 21 | 6" | 3" |
| | | 109'-109'9" | D | 85 | 100/3" | | | | | 22 | 9" | 3" |
| | | 111'-116' | C | | | | Min/Ft | 111' | Core Bedrock (ARGILLITE) | CI | 60" | 36" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | 116' | | | | |
| | | | | | | | | | Bottom of Boring 116' | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 113

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 4 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 113

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a m / p m |
| COMPLETE | | a m / p m |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Grouted 116' to 40' Bentonite Balls & Ottawa Sand to 35' 2" PVC to 0' Used 20' Slotted - 20' Solid 5 Bags of Ottawa Sand ½ Pail of Bentonite Balls 5 Bags of Cement One Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D = Dry C = Cored W = Washed

UP = Undisturbed Piston

TP = Test Pit A = Auger V = Vane Test

UT = Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 113

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 5

TO Haley & Aldrich, Inc. ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth LOCATION Boston, Mass.

REPORT SENT TO above / Center PROJ. NO. 05746-02

SAMPLES SENT TO " OUR JOB NO. 89-573

DATE

HOLE NO. CC 114

LINE & STA.

OFFSET

SURF. ELEV. 25.51

GROUND WATER OBSERVATIONS

At 21' 7/10/89 AM after ____ Hours 39' HW Casing

At 21'6" 7/11/89 AM after ____ Hours 99' Casing

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | PW-HW | S/S | NV II split |
| Size I.D. | NW | 1-3/8" | |
| Hammer Wt. | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 7/6/89 | a.m. p.m. |
| COMPLETE | 7/14/89 | a.m. p.m. |

TOTAL HRS.

BORING FOREMAN G.Brouillette

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 9" | Brick & Cement | | | |
| | | 1'-2'6" | D | 2 | 3 | 2 | | | Brown fine to medium SAND FILL | 1 | 18" | 6" |
| | | 2'6"-4' | D | 3 | 4 | 5 | | | | 2 | 18" | 1" |
| | | 4'-6' | D | 3 | 2 | 3 | | | | 3 | 24" | 12" |
| | | | | | | 4 | | | | | | |
| | | 6'-8' | D | 4 | 2 | 3 | | 7' - | Brick | 4 | 24" | 6" |
| | | | | | | 7 | | | | | | |
| | | 8'-9'6" | D | 2 | 4 | 8 | | | Brown fine to coarse SAND & Gravel, some cement | 5 | 18" | - |
| | | @ 9'6" | D | 100/0" (Ref.) | | | | | (Cement - 9'6" to 10'6") | | | |
| | | | | | | | | | Black fine SAND & Organic Silt & Oil | | | |
| | | 12'-14' | D | 2 | 3 | 3 | | | | 6 | 24" | 6" |
| | | | | | | 3 | | | | | | |
| | | 14'-15' | D | 3 | 1 | | | | | 7 | 12" | 7" |
| | | 15'-16' | D | 3 | 3 | | | 15' | | 7A | 12" | 7" |
| | | | | | | | | | Gray fine SAND with Clay and Organic Silt layers | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 19'-21' | D | 3 | 3 | 5 | | | Gray silty CLAY with fine sand layers | 8 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 24'-25' | D | 3 | 7 | | | 25' - | layer of oil in sand seam | 9 | 12" | 9" |
| | | 25'-26' | D | 10 | 10 | | | | | 9A | 12" | 9" |
| | | | | | | | | | Brown fine SAND, some silt | | | |
| | | 27'-29' | D | 9 | 12 | 16 | | | | 10 | 24" | 20" |
| | | | | | | 16 | | | | | | |
| | | 29'-31' | D | 6 | 11 | 14 | | | " trace of silt | 11 | 24" | 20" |
| | | | | | | 14 | | | | | | |
| | | 31'-31'6" | D | 8 | | | | 31'6" | - Cobble | 12 | 6" | 6" |
| | | 31'6"-33' | D | 55 | 21 | 12 | | 32' | Gray Silty CLAY, trace of fine sand lenses | 12A | 18" | 18" |
| | | 33'-35' | D | 4 | 6 | 7 | | | | 13 | 24" | 24" |
| | | | | | | 9 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 39'-41' | D | 2 | 3 | 4 | 7 | | | 14 | 24" | 24" |

GROUND SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring 119'6"
Rock Coring 49'6"
Samples 30

HOLE NO. CC 114

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 5
DATE
HOLE NO. CC 114
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89 573

GROUND WATER OBSERVATIONS
At ____ after ____ Hours
At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From To 0-6 | 6-12 | 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 44' | | | | |
| | | 44'-46' | D | 10 | 5 | 5 | | | | 15 | 24 | 24" |
| | | | | | | 6 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 49'-51' | D | 7 | 10 | 9 | | | Gray fine SAND, trace of silty clay layers | 16 | 24 | 24" |
| | | | | | | 14 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 54'-56' | D | 5 | 10 | 17 | | | | 17 | 24 | 24" |
| | | | | | | 14 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 59'-61' | D | 15 | 20 | 24 | | | Gray fine SAND, little silt | 18 | 24 | 14" |
| | | | | | | 28 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 64'-66' | D | 20 | 15 | 27 | | | " & Silt | 19 | 24 | 24" |
| | | | | | | 28 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 68' | | | | |
| | | 69'-71' | D | 2 | 4 | 5 | | | Gray Silty CLAY | 20 | 24 | 24" |
| | | | | | | 7 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 73' | | | | |
| | | 74'-76' | D | 49 | 28 | 47 | | | Gray fine to medium SAND & Gravel, some silt & clay 74' to 79' - Falling Head Permeability Test | 21 | 24 | 12" |
| | | | | | | 40 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 79'-81' | D | 34 | 35 | 32 | 97 | | Gray silty fine SAND, some fine gravel | 22 | 24 | 14" |

GROUND SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type
D=Dry C=Cored W=Washed
P=Piston A=Auger V=Vane Test
T=Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CC 114

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 5
DATE
HOLE NO. CC 114
LINE & STA.
OFFSET
SURF. ELEV.

TO
ADDRESS
PROJECT NAME
LOCATION
REPORT SENT TO
PROJ. NO.
SAMPLES SENT TO
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 84'-86' | D | 28 | 30 | 27 | | | Cobbles | 23 | 24" | 2" |
| | | | | | | 45 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 89'-91' | D | 26 | 38 | 51 | | | Gray silty fine SAND & | 24 | 24" | 12" |
| | | | | | | 59 | | | Gravel (compact) | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 94'-96' | D | 23 | 33 | 21 | | | | 25 | 24" | 20" |
| | | | | | | 53 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 99'-100' | D | 75 | 120 | | | | | 26 | 12" | 12" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 104'-104'6" | D | 200 | | | | | " & coarse Gravel | 27 | 6" | 6" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 107'6" | - Boulder | | | |
| | | | | | | | | | | | | |
| | | 109'-110' | D | 74 | 112 | | | | Gray fine to medium SAND, | 28 | 12" | 6" |
| | | | | | | | | | Silt & Gravel (compact) | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 114'-114'2" | D | 115 | | | | | " & coarse Gravel | 29 | 2" | 1" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 118' | Gray weathered ARGILLITE | | | |
| | | | | | | | | 119' | trace Till mixed | | | |
| | | 119'-119'4" | D | 130 | | | | | Gray weathered ARGILLITE | 30 | 4" | 2" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CC 114

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 5

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 114

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From To 0-6 | 6-12 | 12-18 | Min/Ft | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 119'6"-124'6" | C | | | | 4 5 5 6 6 | | Core Bedrock (ARGILLITE) | C1 | 60" | 40' |
| | | 124'6"-126'6" | C | | | | 6 6 | | | C2 | 24" | 20' |
| | | 126'6"-130'6" | C | | | | 4 5 6 8 | | | C3 | 48" | 32' |
| | | 130'6"-133'6" | C | | | | 4 7 7 | | | C4 | 36" | 30" |
| | | 133'6"-136'6" | C | | | | 4 4 6 | | | C5 | 36" | 36' |
| | | 136'6"-140'6" | C | | | | 4 5 6 6 | | | C6 | 48" | 36' |
| | | 140'6"-143'6" | C | | | | 5 7 7 | | | C7 | 36" | 36' |
| | | 143'6"-147'6" | C | | | | 4 4 5 5 5 | | | C8 | 48" | 46' |
| | | 147'6"-151' | C | | | | 5 6 3/6" | | | C9 | 42" | 42' |
| | | 151'-156' | C | | | | 5 5 5 5 5 | | | C10 | 60" | 58' |
| | | 156'-160' | C | | | | 6 6 7 8 | | | C11 | 48" | 42' |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D = Dry C = Cored W = Washed
UP = Undisturbed Piston
TP = Test Pit A = Auger V = Vane Test
UT = Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NOCC 114

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 5 OF 5

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 114

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From To 0-6 | 6-12 | 12-18 | Min/Ft | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 160'-165' | C | | | | 6 | | | C12 | 60" | 50 |
| | | | | | | | 6 | | Gray ARGILLITE | | | |
| | | | | | | | 6 | | | | | |
| | | | | | | | 6 | | | | | |
| | | | | | | | 6 | | | | | |
| | | 165'-169' | C | | | | 6 | | | C13 | 48" | 30 |
| | | | | | | | 6 | | | | | |
| | | | | | | | 6 | | | | | |
| | | | | | | | 7 | 169' | | | | |
| | | | | | | | | | Bottom of Boring 169' | | | |
| | | | | | | | | | Grouted 169' to 43' | | | |
| | | | | | | | | | Bentonite Balls - Ottawa Sand | | | |
| | | | | | | | | | Set Well - 2" PVC | | | |
| | | | | | | | | | 20' Slotted - 20' Solid | | | |
| | | | | | | | | | One 2½" Road Box | | | |
| | | | | | | | | | Grouted 17'6" to 0 | | | |
| | | | | | | | | | 10 Bags of Cement | | | |
| | | | | | | | | | ½ Box of Bentonite Balls | | | |
| | | | | | | | | | 4 Bags of Ottawa Sand | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D = Dry C = Cored W = Washed

UP = Undisturbed Piston

TP = Test Pit A = Auger V = Vane Test

UT = Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 114

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 115

LINE & STA.

OFFSET

SURF. ELEV. 26.36

GROUND WATER OBSERVATIONS

At 14'6" after 12 Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | HW-NW | S/S | NV II |
| Size I D. | 4" 3" | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 7/18/89 | |
| COMPLETE | 8/11/89 | |
| TOTAL HRS. | | |

BORING FOREMAN J. Texeira

INSPECTOR & G. Brouillette

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 10' to 12' - Cement | | | |
| | | 15'-15'6" | D | 180 | 49/0" (300#) | | | | Blue coarse Sand, fine Gravel, Brick - Fill | 1 | 6" | 6" |
| | | 18'6"-20'6" | D | 9 | 8 | 9 | | | | | | |
| | | | | | | 13 | | 20'6" | | 2 | 24" | 0" |
| | | | | | | | | | Blue CLAY | | | |
| | | 24'-26' | D | 2 | 4 | 4 | | | | 3 | 24" | 24" |
| | | | | | | 3 | | | | | | |
| | | | | | | | | 29' | | | | |
| | | 29'-31' | D | 15 | 15 | 20 | | | Brown SAND | 4 | 24" | 18" |
| | | | | | | 31 | | | | | | |
| | | | | | | | | 34' | | | | |
| | | 34'-36' | D | 5 | 6 | 7 | | | | 5 | 24" | 24" |
| | | | | | | 9 | | | Gray Blue CLAY | | | |
| | | 39'-40'10" | D | 4 | 5 | 9 | | | | 6 | 22" | 22" |

GROUND SURFACE TO ____ USED ____ "CASING: THEN ____

Sample Type

D = Dry C = Cored W = Washed

UP = Undisturbed Piston

TP = Test Pit A = Auger V = Vane Test

UT = Undisturbed Thinwall

| Proportions Used | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY

Earth Boring 110'

Rock Coring 27'1"

Samples 20

HOLE NO CC 115

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 115

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 40'10"-41' | D | 29 | | | | | Brown fine SAND, little silt | 6A | 2" | 2" |
| | | | | | | | | 44' | | | | |
| | | 44'-46' | D | 27 | 22 | 9 | | | Brown Gray fine SAND, 2" & 3" layer of Clay & Silt | 7 | 24" | 20' |
| | | | | | | 27 | | | | | | |
| | | | | | | | | 49' | | | | |
| | | 49'-51' | D | 3 | 5 | 8 | | | Gray fine sandy CLAY | 8 | 24" | 24' |
| | | | | | | 8 | | | | | | |
| | | | | | | | | 54' | | | | |
| | | 54'-56' | D | 5 | 6 | 8 | | | Gray CLAY | 9 | 24" | 24' |
| | | | | | | 9 | | | | | | |
| | | 59'-61' | D | 2 | 5 | 4 | | | 60' to 65' - Falling Head Permeability Test | 10 | 24" | 24' |
| | | | | | | 7 | | | | | | |
| | | 65'-67' | D | 4 | 5 | 7 | | | | 11 | 24" | 24' |
| | | | | | | 9 | | | | | | |
| | | 69'-70'6" | D | WOR | 10 | 15 | | 70'6" | | 12 | 18" | 18' |
| | | 70'6"-71' | D | 23 | | | | | Gray SILT & CLAY, some fine to medium sand & gravel | 12A | 6" | 4" |
| | | | | | | | | 74' | | | | |
| | | 74'-76' | D | 61 | 48 | 37 | | | Gray SILT mixed with fine SAND & fine Gravel 74' to 78' - Falling Head Permeability Test | 13 | 24" | 12' |
| | | | | | | 71 | | | | | | |
| | | 79'-81' | D | 36 | 27 | 34 | 31 | | | 14 | 24" | 0' |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 115

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 115

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 84'-85'6" | D | 44 | 40 | 55 | | | Gray SILT mixed with fine SAND & fine Gravel | 15 | 18" | 12" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 89'-90'6" | D | 200/3" | *30/3" | | | | | | | |
| | | | | | *40 | *44 | | | 92.5' - Pressure Meter Test | 16 | 18" | 12" |
| | | (* denotes 300# Wt. on Spoon) | | | | | | | | | | |
| | | 94'-95'6" | D | 205 | *180 | *100 | | | 96.2' - Pressure Meter Test | 17 | 18" | 16" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 99'-99'9" | D | 130 | *100/3" | | | | | 18 | 9" | 3" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | @ 104' | D | 100/0" | | | | | | | | |
| | | 104'-105' | D | *75 | *111 | | | | | 19 | 12" | 10" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 109'-110' | D | 125 | *91 | | Min/Ft | 109' | Gray weathered ARGILLITE | 20 | 12" | 8" |
| | | 110'-112'10" | C | | | | 8 | | | C1 | 34" | 20" |
| | | | | | | | 7 | | Gray ARGILLITE | | | |
| | | | | | | | 10 | | | | | |
| | | 112'10" - 114'4" | C | | | | 5 | | 112.2' - Pressure Meter Test | C2 | 18" | 16" |
| | | | | | | | 9 | | | | | |
| | | 114'4" - 116'11" | C | | | | 5 | | | C3 | 31" | 23" |
| | | | | | | | 5 | | 115.8' - Pressure Meter Test | | | |
| | | | | | | | 10 | | | | | |
| | | 116'11" - 120'3" | | | | | 10 | | | C4 | 40" | 32" |
| | | | | | | | 10 | | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D-Dry C=Cored W=Washed

U=Undisturbed Piston

T=Test Pit A-Auger V=Vane Test

U=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO CC 115

PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 4
DATE
HOLE NO. CC-115
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Rock Test - 12 | C | 30 | | | 12 | | | | | |
| | | 120'3" - 123'1" | C | | | | 5 | | Gray ARGILLITE | C5 | 34" | 24" |
| | | | | | | | 5 | | | | | |
| | | | | | | | 10 | | | | | |
| | | 123'1" - 125'7" | C | | | | 10 | | | C6 | 30" | 32" |
| | | | | | | | 5 | | | | | |
| | | | | | | | 7 | | | | | |
| | | 125'7" - 129' | C | | | | | | | C7 | 41" | 38" |
| | | 129'-133' | C | | | | | | | C8 | 48" | 48" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 133' - 137'1" | C | | | | | | | C9 | 49" | 24" |
| | | | | | | | 10 | | | | | |
| | | | | | | | 10 | | | | | |
| | | | | | | | 13 | 137'1" | | | | |
| | | | | | | | | | Bottom of Boring 137'1" | | | |
| | | | | | | | | | 108' to 103' - Bentonite Balls | | | |
| | | | | | | | | 8/10/89 | @ 102' - Piezometer | | | |
| | | | | | | | | | Bentonite Balls & Ottawa Sand | | | |
| | | | | | | | | | Grout 100' to 40' | | | |
| | | | | | | | | 8/11/89 | Installed 2" PVC at 40' | | | |
| | | | | | | | | | 10' Bentonite Seal | | | |
| | | | | | | | | | One Road Box | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D = Dry C = Cored W = Washed
UP = Undisturbed Piston
TP = Test Pit A = Auger V = Vane Test
UT = Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY
Earth Boring
Rock Coring
Samples

HOLE NO CC 115

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 116

LINE & STA.

OFFSET

SURF. ELEV. 29.08

GROUND WATER OBSERVATIONS

At 17' after Hours

At after Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | HW-NW | S/S | D/T |
| Size I D | 4" 3" | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 5/31/89 | a.m. p.m. |
| COMPLETE | 6/9/89 | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | J. Texeira | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1' | 4" Black Top - 8" Cement | | | |
| | | 1'-3' | D | 2 | 2 | 3 | | | Brown medium SAND | 1 | 24" | 1" |
| | | | | | | 3 | | | | | | |
| | | 3'-5' | D | 1 | 2 | 3 | | | | 2 | 24" | 2" |
| | | | | | | 3 | | | | | | |
| | | 5'-7' | D | 6 | 8 | 11 | | | | 3 | 24" | 8" |
| | | | | | | 12 | | | | | | |
| | | 7'-9' | D | 20 | 23 | 25 | | | | 4 | 24" | 12" |
| | | | | | | 17 | | | | | | |
| | | 9'-9'6" | D | 25 | | | | 9'6" | | 5 | 6" | 6" |
| | | 9'6"-11' | D | 40 | 31 | 28 | | | Yellow CLAY | 5A | 18" | 12" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 14'-16' | D | 5 | 5 | 5 | | | Gray CLAY | 6 | 24" | 18" |
| | | | | | | 6 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 19' | | | | |
| | | 19'-20'6" | D | 4 | 5 | 4 | | 20'6" | " trace of fine sand | 7 | 18" | 18" |
| | | 20'6"-21' | D | 7 | | | | | Brown very fine sandy CLAY, trace of silt | 7A | 6" | 6" |
| | | | | | | | | 24' | | | | |
| | | 24'-26' | D | 9 | 11 | 18 | | | Yellow Brown silty fine SAND | 8 | 24" | 24" |
| | | | | | | 20 | | | | | | |
| | | | | | | | | 29' | | | | |
| | | 29'-31' | D | 13 | 21 | 24 | | | Brown medium SAND, trace of silt | 9 | 24" | 12" |
| | | | | | | 24 | | | | | | |
| | | | | | | | | 34' | | | | |
| | | 34'-35'6" | D | 4 | 12 | 17 | | 35'6" | Brown CLAY | 10 | 18" | 12" |
| | | 35'6"-36' | D | 16 | | | | | Brown medium SAND, little silt | 10A | 6" | 6" |

GROUND SURFACE TO USED "CASING: THEN

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY
Earth Boring 104'4"
Rock Coring 20'4"
Samples 24

HOLE NO CC 116

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4
DATE
HOLE NO. CC 116
LINE & STA.
OFFSET
SURF. ELEV.

TO | ADDRESS
PROJECT NAME | LOCATION
REPORT SENT TO | PROJ. NO.
SAMPLES SENT TO | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'-41' | D | 15 | 21 | 23 | | | Brown medium SAND, little silt | 11 | 24" | 14" |
| | | | | | | 29 | | | | | | |
| | | | | | | | | 44' | | | | |
| | | 44'-46' | D | 18 | 22 | 30 | | | Brown SILT with layer of very fine Sand, little clay | 12 | 24" | 14" |
| | | | | | | 35 | | | | | | |
| | | | | | | | | 49' | | | | |
| | | 49'-51' | D | 3 | 3 | 3 | | | Gray CLAY | 13 | 24" | 24" |
| | | | | | | 4 | | | | | | |
| | | 54'-56' | D | 2 | 3 | 7 | | | | 14 | 24" | 24" |
| | | | | | | 11 | | | | | | |
| | | 59'-61' | D | WOR | 6 | 10 | | | | 15 | 24" | 24" |
| | | | | | | 11 | | | | | | |
| | | 64'-66' | D | WOR | 4 | 4 | | | | 16 | 24" | 24" |
| | | | | | | 9 | | | | | | |
| | | | | | | | | 68'1" | | | | |
| | | 69'-71' | D | 56 | 71 | 70 | | | Gray SILT, coarse sand, clay and fine gravel | 17 | 24" | 15" |
| | | | | | | 21* | | | | | | |
| | | (* denotes 300# Wt. on Spoon) | | | | | | | | | | |
| | | | | | | | | 74' | | | | |
| | | 74'-75'6" | D | 60 | 75 | 28* | | | Gray silty fine SAND, trace coarse to fine gravel, coarse sand<br>76.8' - Pressure Meter Test | 18 | 18" | 3" |
| | | 79'-80'6" | D | 58 | 95 | 157 | | | | 19 | 18" | 12" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 116

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 116

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a m / p m |
| COMPLETE | | a m / p m |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No. | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | TILL | | | |
| | | | | | | | | | 82.3' - Pressure Meter Test | | | |
| | | 84'-85'6" | D | 120 | 131 | 130 | | | | 20 | 18" | 6" |
| | | | | | | | | | 87.1' - Pressure Meter Test | | | |
| | | 89'-90'6" | D | 112 | 144 | 134 | | | | 21 | 18" | 14" |
| | | | | | | | | | 92.5' - Pressure Meter Test | | | |
| | | 94'-95'6" | D | 45 | 62 | 100 | | | | 22 | 18" | 8" |
| | | | | | | | | | 97.0' - Pressure Meter Test | | | |
| | | 99'-101' | D | 100 | 111 | 22* | | | | 23 | 24" | 12" |
| | | | | | | 30* | | | | | | |
| | | (* denotes 300# Wt. on Spoon) | | | | | | | | | | |
| | | 104'-104'4" | D | 100/0" | 162/4"* | | Min/Ft | 104' | | 24 | 4" | 4" |
| | | 104'4" - 107'2" | C | | | | 18 20 22 | | Core Bedrock (ARGILLITE) | C1 | 34" | 22" |
| | | 107'2" - 110'7" | C | | | | 12 10 10 | | | C2 | 41" | 41" |
| | | 110'7" - 114'3" | C | | | | 11 10 15 | | 111.7' - Pressure Meter Test | C3 | 44" | 41" |
| | | 114'3" - 116'6" | C | | | | 10 15 5 | | | C4 | 27" | 20" |
| | | 116'6" - 119'8" | C | | | | 8 10 7 8 | | | C5 | 38" | 34" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO. CC 116

TOWN PRESS – EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 4 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 116

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 119'8" - 124'8" | C | | | | 7<br>8<br>10<br>13<br>20 | 124'8" | Gray ARGILLITE<br>122.4' - Pressure Meter Test<br>Bottom of Boring 124'8"<br>Installed Piezometer @ 77'<br>Grout from 124'8" to 68'<br>One 5" Road Box | C6 | 60" | 48" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NOCC 116

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 3

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 117

LINE & STA.

OFFSET

SURF. ELEV. 29.20

GROUND WATER OBSERVATIONS

At 23' after ____ Hours 5/31/89 AM

14' HW Casing

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | PW-HW | S/S | NV II split |
| Size I.D. | NW | 1-3/8" | |
| Hammer Wt | 300# | 140# | BIT |
| Hammer Fall | 24" | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 5/30/89 | a.m. p.m. |
| COMPLETE | 6/5/89 | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN G. Brouillette

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0'-2' | D | 12 | 12 | 10 | | | Brown fine to medium SAND & Gravel - Fill | 1 | 24" | 9" |
| | | | | | | 11 | | | | | | |
| | | 2'-4' | D | 9 | 12 | 8 | | | | 2 | 24" | 9" |
| | | | | | | 12 | | | | | | |
| | | 4'-6' | D | 12 | 7 | 7 | | | " some brick | 3 | 24" | 6" |
| | | | | | | 5 | | | | | | |
| | | 6'-8' | D | 3 | 2 | 3 | | | | 4 | 24" | 6" |
| | | | | | | 5 | | | | | | |
| | | 8'-10' | D | 12 | 7 | 7 | | 8'6" | | | | |
| | | | | | | 10 | | | Brown fine SAND, little silt | 5 | 24" | 12" |
| | | 10'-12' | D | 10 | 10 | 20 | | | | | | |
| | | | | | | 30 | | 12' | | 6 | 24" | 12" |
| | | 12'-14' | D | 15 | 19 | 20 | | | Brown SILT, some clay, trace of fine sand lenses | 7 | 24" | 24" |
| | | | | | | 20 | | | | | | |
| | | 14'-16' | D | 4 | 5 | 6 | | | (14' - color change to Gray Brown) | 8 | 24" | 24" |
| | | | | | | 8 | | | | | | |
| | | | | | | | | 19' | | | | |
| | | 19'-21' | D | 3 | 4 | 5 | | | Gray Silty CLAY | 9 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | | | | | | | 23'6" | | | | |
| | | 24'-26' | D | 6 | 6 | 7 | | | Brown fine SAND, some silt | 10 | 24" | 20" |
| | | | | | | 7 | | | | | | |
| | | 29'-31' | D | 11 | 10 | 11 | | | | 11 | 24" | 18" |
| | | | | | | 13 | | | | | | |
| | | 34'-36' | D | 10 | 14 | 16 | | | 34' to 36' - Falling Head Permeability Test | 12 | 24" | 9" |
| | | | | | | 24 | | | | | | |
| | | | | | | | | 38' | | | | |
| | | 39'-41' | D | 6 | 6 | 6 | 7 | | Gray Silty CLAY | 13 | 24" | 24" |

GROUND SURFACE TO 9' USED PW "CASING: THEN HW to 14', Open Hole to 34' - NW

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring 99'6"
Rock Coring 10'
Samples 25

HOLE NO. CC 117

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 2 OF 3

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 117

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At 23' 6/1/89 AM after ____ Hours

84' NW Casing

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt. | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Gray Silty CLAY | | | |
| | | 44'-44'6" | D | 4 | | | | 44'6" | | 14 | 6" | 6" |
| | | 44'6"-46' | D | 20 | 22 | 21 | | | Gray fine SAND & Silt | 14A | 18" | 18" |
| | | 49'-49'6" | D | 13 | | | | 49'6" | | 15 | 6" | 6" |
| | | 49'6"-51' | D | 9 | 10 | 9 | | | Gray Silty CLAY, trace of fine sand lenses | 15A | 18" | 18" |
| | | 54'-56' | D | 3 | 3 | 3 | | | | 16 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 59'-61' | D | 3 | 4 | 4 | | | | 17 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 64'-66' | D | 3 | 4 | 5 | | | | 18 | 24" | 24" |
| | | | | | | 9 | | | | | | |
| | | 69'-71' | D | 35 | 44 | 51 | | 69' | | 19 | 24" | 9" |
| | | | | | | 60 | | 72' | Gray fine SAND & Silt, some fine to medium gravel, little clay | | | |
| | | 74'-76' | D | 30 | 20 | 20 | | | Gray fine SAND & Clayey Silt, trace of fine to medium gravel | 20 | 24" | 9" |
| | | | | | | 20 | | | | | | |
| | | 79'-81' | D | 11 | 16 | 22 | 30 | | | 21 | 24" | 12" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO. CC 117

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 3 OF 3
DATE
HOLE NO. CC 117
LINE & STA.
OFFSET
SURF. ELEV.

TO
PROJECT NAME
REPORT SENT TO
SAMPLES SENT TO
ADDRESS
LOCATION
PROJ. NO.
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt. | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 79' to 84' - Falling Head Permeability Test | | | |
| | | 84'-86' | D | 38 | 64 | 50 | | | | 22 | 24" | 9" |
| | | | | | | 75 | | 86' | | | | |
| | | | | | | | | | Gray fine SAND and SILT, some fine to medium gravel, little clay | | | |
| | | 89'-90'6" | D | 88 | 91 | 120 | | | | 23 | 18" | 12" |
| | | | | | | | | 93' | | | | |
| | | 94'-94'4" | D | 150/4" | | | | | Gray weathered ARGILLITE | 24 | 4" | 4" |
| | | | | | | | | | 94' to 99' - Falling Head Permeability Test | | | |
| | | 99'-99'3" | D | 120/3" | | | Min/Ft | 99'6" | Core Bedrock (ARGILLITE) | 25 | 3" | 2" |
| | | 99'6"-104'6" | C | | | | 4 | | | C1 | 60" | 46" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | 104'6" - 109'6" | C | | | | 4 | | | C2 | 60" | 46" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | 109'6" | | | | |
| | | | | | | | | | Bottom of Boring 109'6" | | | |
| | | | | | | | | | Grouted 109'6" to 79' | | | |
| | | | | | | | | | Bentonite Balls & Ottawa Sand | | | |
| | | | | | | | | | Piezometer at 77' | | | |
| | | | | | | | | | Grouted 68' to 40' | | | |
| | | | | | | | | | Installed 2" PVC at 37' | | | |
| | | | | | | | | 6/5/89 | Grouted 15' to 0' | | | |
| | | | | | | | | | Installed one 5" Road Box | | | |
| | | | | | | | | | Used one Bag of Cement & Ottawa Sand | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO. CC 117

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 201

LINE & STA.

OFFSET

SURF. ELEV. 34.57

GROUND WATER OBSERVATIONS

At 22' 5/17/89 after Hours 20' HW Casing

At after Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | PW-HW | S/S | NV II split |
| Size I.D. | NW | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 5/12/89 | a.m. p.m. |
| COMPLETE | 5/22/89 | a.m. p.m. |

TOTAL HRS.

BORING FOREMAN G. Brouillette

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 9" | Cement Slab - Econo Shoe | | | |
| | | | | | | | | | VAULT | | | |
| | | | | | | | | 12'6" | | | | |
| | | | | | | | | 13' | Cement | | | |
| | | 13'-15' | D | 6 | 9 | 14 | | | Gray SILT & Clay & fine to medium Gravel, some brick & cement | 1 | 24" | 6" |
| | | | | | | 25 | | 16' | | | | |
| | | 15'-16' | D | 4 | 6 | | | | | 2 | 12" | 12' |
| | | 16'-17' | D | 12 | 10 | | | | Yellow CLAY, some silt, trace of fine sand lenses | 2A | 12" | 12' |
| | | 17'-18'6" | D | 4 | 4 | 8 | | 18'6" | | 3 | 18" | 18' |
| | | 18'6"-19' | D | 9 | | | | | " color change to Gray | 3A | 6" | 6" |
| | | | | | | | | 20' | | | | |
| | | 19'6"-21'6" | D | 4 | 5 | 6 | | | Color change to Yellow Brown with fine Sand in Layers | 4 | 24" | 24' |
| | | | | | | 12 | | | | | | |
| | | 24'6"-26'6" | D | 6 | 13 | 17 | | | | | | |
| | | | | | | 15 | | 26'6" | | 5 | 24" | 24' |
| | | 29'6"-31'6" | D | 12 | 17 | 25 | | | Brown fine SAND, trace of silt | | | |
| | | | | | | 28 | | | | 6 | 24" | 10' |
| | | 34'6"-36'6" | D | 13 | 17 | 32 | | | | | | |
| | | | | | | 37 | | | | 7 | 24" | 14' |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY:
Earth Boring 104'6"
Rock Coring 54'6"
Samples 21

HOLE NO CC 201

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 201

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At 34'2" 5/19/89 6:15 AM after ____ Hours

94' NW Casing

At _____ after ____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'6"-41'6" | D | 19 | 16 | 15 | | 41' - | Clay Layer (6") | 8 | 24 | 18" |
| | | | | | | 24 | | | | | | |
| | | 44'6"-46'6" | D | 23 | 31 | 41 | | | | 9 | 24 | 18" |
| | | | | | | 50 | | 48' | | | | |
| | | 49'6"-51'6" | D | 5 | 8 | 5 | | | Gray Silty CLAY | 10 | 24 | 24" |
| | | | | | | 10 | | | | | | |
| | | 54'6"-56'6" | D | 5 | 10 | 15 | | | Gray fine SAND, trace of silt with clay layer mixed | 11 | 24 | 24" |
| | | | | | | 17 | | | | | | |
| | | 59'6"-61'6" | D | 22 | 30 | 30 | | | | 12 | 24 | 24" |
| | | | | | | 29 | | 63' | | | | |
| | | 64'6"-66'6" | D | 4 | 4 | 6 | | | Gray Silty CLAY | 13 | 24 | 24" |
| | | | | | | 9 | | | | | | |
| | | 69'6"-71'6" | D | 4 | 5 | 6 | | | | 14 | 24 | 24" |
| | | | | | | 10 | | | | | | |
| | | 74'6"-75' | D | 6 | | | | 75' | | 15 | 6" | 6" |
| | | 75'-76'6" | D | 22 | 26 | 30 | | 76'6" | Gray F-M SAND, some silt & clay, trace of fine gravel (lost 50% of water) | 15A | 18" | 18" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NOCC 201

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

S.. ___ OF 4

TO ___ ADDRESS ___

PROJECT NAME ___ LOCATION ___

REPORT SENT TO ___ PROJ. NO. ___

SAMPLES SENT TO ___ OUR JOB NO. 89-573

DATE ___

HOLE NO. CC 201

LINE & STA. ___

OFFSET ___

SURF. ELEV. ___

GROUND WATER OBSERVATIONS

At 34' 5/22/89 AM after ___ Hours

94' NW Casing

At ___ after ___ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN ___

INSPECTOR ___

SOILS ENGR. ___

LOCATION OF BORING: ___

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 79'6"-81' | D | 33 | 70 | 130 | | | Gray fine to medium SAND, Clay & Gravel, some silt, trace of cobbles | 16 | 18" | 12" |
| | | 84'6"-86'6" | D | 22 | 28 | 28 | | | | 17 | 24" | 18" |
| | | | | | | 32 | | | | | | |
| | | 89'-91' | D | 20 | 30 | 36 | | | | 18 | 24" | 24" |
| | | | | | | 43 | | | | | | |
| | | | | | | | | 94' | | | | |
| | | 94'-95'6" | D | 30 | 30 | 120 | | | (94' to 99' - losing 25% water) completely weathered Bedrock | 19 | 18" | 12" |
| | | 99'-99'3" | D | 150/3" | | | | | | 20 | 3" | 3' |
| | | 104'-104'6" | D | | | | Min/Ft | 104'6" | Core Bedrock (ARGILLITE) | 21 | 6" | 6' |
| | | 104'6" - 109'6" | C | | | | 4 | | | C1 | 60" | 41' |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | 109'6" - 114'6" | C | | | | 5 | | | C2 | 60" | 48' |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | 114'6" - 119'6" | C | | | | 5 | | | C3 | 60" | 60' |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |

GROUND SURFACE TO ___ USED ___ "CASING: THEN ___

Sample Type

D: Dry C: Cored W: Washed

UP: Undisturbed Piston

TP: Test Pit A: Auger V: Vane Test

UT: Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 M/Stiff | |
| 30-50 | Dense | 8-15 Stiff | |
| 50 + | Very Dense | 15-30 V-Stiff | |

SUMMARY:

Earth Boring ___

Rock Coring ___

Samples ___

HOLE NO. CC 201

TOWN PRESS EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 4 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 201

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 119'6" - 124' | C | | | | 5 | | Gray ARGILLITE very weathered | C4 | 54" | 54' |
| | | 124'-129' | C | | | | 4 | | | C5 | 60" | 16' |
| | | 129'-134' | C | | | | 4 | | | C6 | 60" | 48' |
| | | 134'-139' | C | | | | 4 | | | C7 | 60" | 48' |
| | | 139'-144' | C | | | | 4 | | | C8 | 60" | 60' |
| | | 144'-149' | C | | | | 4 | | | C9 | 60" | 42' |
| | | 149'-154' | C | | | | 4 | | | C10 | 60" | 58' |
| | | 154'-159' | C | | | | 4 | 159' | Bottom of Boring 159' | C11 | 60" | 48' |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO. CC 201

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET ____ OF 4
DATE ____
HOLE NO. CC-202
LINE & STA. ____
OFFSET ____
SURF. ELEV. 29.31

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.
PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.
REPORT SENT TO above / Center | PROJ. NO. 05746-02
SAMPLES SENT TO " | OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS
At ____ after ____ Hours
At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | PW-HW | S/S | NV II split |
| Size I.D. | NW | 1-3/8" | |
| Hammer Wt | | 140# | BIT |
| Hammer Fall | | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 7/17/89 | ____ a.m. p.m. |
| COMPLETE | 7/24/89 | ____ a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | G. Brouillett | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING: ____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 1' | Cement Slab | | | |
| | | 1'-2' | D | 2 | 4 | | | | Brown fine to medium SAND | 1 | 12" | 6" |
| | | 2'-4' | D | 5 | 2 | 3 | | | & Gravel - Fill | 2 | 24" | 6" |
| | | | | | | 4 | | | | | | |
| | | 4'-5'9" | D | 8 | 9 | 28 | | | | 3 | 21" | 6" |
| | | | | | | 100/3" | | | | | | |
| | | | | | | | | 7' | cobbles | | | |
| | | 7'-9' | D | 25 | 19 | 25 | | | Brown fine to medium SAND | 4 | 24" | 12" |
| | | | | | | 13 | | | & Silt, some gravel - Fill | | | |
| | | 9'-11' | D | 22 | 31 | 20 | | | to Brown fine SAND & Clay mixed | 5 | 24" | 12" |
| | | | | | | 21 | | 11' | | | | |
| | | 11'-12' | D | 24 | 22 | | | 12' | Brown silty fine SAND | 6 | 12" | 9" |
| | | 12'-13' | D | 24 | 22 | | | | Brown Silty CLAY | 6A | 12" | 9" |
| | | | | | | | | 14' | | | | |
| | | 14'-16' | D | 4 | 5 | 8 | | | Gray Silty CLAY | 7 | 24" | 24" |
| | | | | | | 12 | | | | | | |
| | | 19'-21' | D | 3 | 3 | 4 | | | " trace of fine sand layers | 8 | 24" | 24" |
| | | | | | | 5 | | | | | | |
| | | 24'-26' | D | 7 | 12 | 15 | | | " Brown fine Sand Layer | 9 | 24" | 18" |
| | | | | | | 20 | | | | | | |
| | | 29'-31' | D | 2 | 4 | 5 | | | Gray Silty CLAY | 10 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | 34'-36' | D | 2 | 3 | 4 | | | | 11 | 24" | 24" |
| | | | | | | 6 | | | | | | |
| | | 39'-41' | D | 9 | 15 | 17 | 14 | | " Brown fine Sand Layers | 12 | 24" | 18" |

GROUND SURFACE TO 9' USED PW "CASING: THEN HW to 14' then NW

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140lb Wt. x 30" fall on 2" O.D. Sampler
Cohesionless Density: 0-10 Loose; 10-30 Med. Dense; 30-50 Dense; 50+ Very Dense
Cohesive Consistency: 0-4 Soft; 4-8 M/Stiff; 8-15 Stiff; 15-30 V-Stiff; 30+ Hard

SUMMARY:
Earth Boring 89'6"
Rock Coring 48'
Samples 22

HOLE NO CC 202

JOHN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET. EAST PROVIDENCE, R I

SHEET 2 OF 4

TO _____ | ADDRESS _____

PROJECT NAME _____ | LOCATION _____

REPORT SENT TO _____ | PROJ. NO. _____

SAMPLES SENT TO _____ | OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 202

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No. | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 44'-46' | D | 3 | 9 | 10 | | | Gray Silty CLAY & fine | 13 | 24" | 24' |
| | | | | | | 11 | | | Sand Layers | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 49'-51' | D | 6 | 8 | 11 | | | | 14 | 24" | 24' |
| | | | | | | 18 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 54'-56' | D | 2 | 2 | 4 | | | Gray Silty CLAY | 15 | 24" | 24' |
| | | | | | | 5 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 58' | | | | |
| | | 59'-61' | D | 6 | 8 | 10 | | | Gray fine to medium SAND, | 16 | 24" | 18" |
| | | | | | | 12 | | | Gravel, Silt & Clay | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 64'-66' | D | 13 | 14 | 13 | | | cobble | 17 | 24" | 0" |
| | | | | | | 14 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 69'-71' | D | 9 | 8 | 9 | | | | 18 | 24" | 24" |
| | | | | | | 7 | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 73' | | | | |
| | | 74'-76' | D | 21 | 27 | 68 | | | Gray fine SAND, little | 19 | 24" | 12" |
| | | | | | | 89 | | | silt, coarse to medium | | | |
| | | | | | | | | | sand, coarse to fine | | | |
| | | | | | | | | | gravel | | | |
| | | | | | | | | | | | | |
| | | 79'-81' | D | 36 | 41 | 49 | 48 | | " & coarse Gravel mixed | 20 | 24" | 3" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 202

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I

SHEET 3 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 202

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84'-85'6" | D | 38 | 55 | 110 | | | Gray Sand, Gravel, Silt & Clay - Till | 21 | 18" | 12" |
| | | | | | | | | 87'6" | | | | |
| | | 89'-89'3" | D | 100/3" | | | Min/Ft | | Core Bedrock (ARGILLITE) | 22 | 3" | 3" |
| | | 89'6"-93'6" | C | | | | 3 | | | C1 | 48" | 24" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | 91.3' - Pressure Meter Test | | | |
| | | | | | | | 4 | | | | | |
| | | 93'6"-98'6" | C | | | | 4 | | | C2 | 60" | 42" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | 98'6"-103'6" | C | | | | 5 | | | C3 | 60" | 36" |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | 103'6" - | C | | | | 5 | | 107.2' - Pressure Meter | C4 | 60" | 36" |
| | | 108'6" | | | | | 5 | | Test | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | 108'6" - | C | | | | 5 | | | C5 | 60" | 40" |
| | | 113'6" | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | 113'6" - | C | | | | 5 | | | C6 | 60" | 36" |
| | | 118'6" | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | 118'6"-123'6" | C | | | | 2 | | | C7 | 60" | 36" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 202

TOWN PRESS — EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 4 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 202

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt. | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. |
| COMPLETE | | p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 4 | | | | | |
| | | | | | | | 5 | | Gray weathered ARGILLITE | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | 123'6" - | C | | | | 5 | | | | | |
| | | 128'6" | | | | | 5 | | | C8 | 60 | 40" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 3 | | | | | |
| | | | | | | | 4 | | | | | |
| | | 128'6" - | C | | | | 4 | | | | | |
| | | 132'6" | | | | | 4 | | | C9 | 48 | 30" |
| | | | | | | | 4 | | | | | |
| | | | | | | | 4 | | | | | |
| | | 132'6" - | C | | | | 5 | | | | | |
| | | 137'6" | | | | | 5 | | | C10 | 60 | 48" |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 5 | 137'6" | | | | |
| | | | | | | | | | Bottom of Boring 137'6" | | | |
| | | | | | | | | | Grouted 137'6" to 45' | | | |
| | | | | | | | | | Installed Well at 40' | | | |
| | | | | | | | | | Grouted 13' to 3' | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
: Dry C: Cored W: Washed
JP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
JT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO. CC 202

TOWN PRESS – EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 4

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 203

LINE & STA.

OFFSET

SURF. ELEV. 31.29

GROUND WATER OBSERVATIONS

At 21' after 72 Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | HW-NW | S/S | NV II |
| Size I.D. | 4" 3" | 1-3/8" | |
| Hammer Wt | Drilled | 140# | BIT |
| Hammer Fall | | 30" | Dia. |

| | Date | Time |
|---|---|---|
| START | 6/10/89 | a.m. p.m. |
| COMPLETE | 6/21/89 | a.m. p.m. |

TOTAL HRS.

BORING FOREMAN J. Texeira

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 5" | Black Top | | | |
| | | 1'-3' | D | 19 | 12 | 16 | | | Brown Sand - Brick FILL | 1 | 24" | 6" |
| | | | | | | 14 | | | | | | |
| | | 3'-5' | D | 13 | 15 | 13 | | | | 2 | 24" | 6" |
| | | | | | | 11 | | | | | | |
| | | 5'-7' | D | 5 | 5 | 5 | | | | 3 | 24" | 6" |
| | | | | | | 6 | | | | | | |
| | | 7'-9' | D | 3 | 10 | 7 | | | | 4 | 24" | 6" |
| | | | | | | 8 | | 9' | | | | |
| | | 9'-11' | D | 4 | 6 | 16 | | | Yellow CLAY | 5 | 24" | 18" |
| | | | | | | 16 | | | | | | |
| | | 14'-16' | D | 8 | 8 | 14 | | | | 6 | 24" | 8" |
| | | | | | | 20 | | | | | | |
| | | 19'-20'6" | D | 7 | 10 | 29 | | | | | | |
| | | 20'6"-21' | D | 26 | | | | 20'6" | | 7 | 18" | 12" |
| | | | | | | | | | Brown fine SAND, little silt | 7A | 6" | 6" |
| | | 24'-26' | D | 17 | 29 | 42 | | | | 8 | 24" | 12" |
| | | | | | | 48 | | | | | | |
| | | 29'-31' | D | 31 | 35 | 45 | | | 29' to 31' - Falling Head Permeability Test | 9 | 24" | 12" |
| | | | | | | 62 | | | | | | |
| | | | | | | | | 34' | | | | |
| | | 34'-35'6" | D | 47 | 38 | 27 | | 35'6" | Brown silty fine SAND | 10 | 18" | 18" |
| | | 35'6"-36' | D | 17 | | | | | Brown Gray CLAY, trace of fine sand | 10A | 6" | 6" |
| | | | | | | | | 38'3" | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring 89'4"
Rock Coring 55'8"
Samples 22

HOLE NO. CC 203

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 203

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'-41' | D | 3 | 4 | 6 | | | Gray CLAY | 11 | 24' | 24" |
| | | | | | | 7 | | | | | | |
| | | 44'-46' | D | 3 | 4 | 5 | | | | 12 | 24' | 24" |
| | | | | | | 6 | | | | | | |
| | | 47'-49' | UP | | | | | | 47.2' - Pressure Meter Test | UP1 | 24' | 24" |
| | | 49'-50' | D | 5 | 9 | | | 50' | | 13 | 12' | 10" |
| | | 50'-51' | D | 12 | 12 | | | | Gray CLAY mixed with trace of fine sand & gravel | 13A | 12' | 8" |
| | | | | | | | | 54' | | | | |
| | | 54'-56' | D | 31 | 22 | 28 | | | Gray SILT and CLAY mixed with fine to medium Sand & fine Gravel, Boulder | 14 | 24' | 14" |
| | | | | | | 34 | | | | | | |
| | | | | | | | | 59' | | | | |
| | | 59'-60'6" | D | 32 | 23 | 31 | | | Gray Clayey SILT mixed with coarse Sand & fine Gravel | 15 | 18' | 6" |
| | | | | | | | | | 60.7' - Pressure Meter Test | | | |
| | | 64'-65'6" | D | 24 | 26 | 29 | | | | 16 | 18' | 0" |
| | | | | | | | | | 67.2' - Pressure Meter Test | | | |
| | | 68'-69' | D | 4 | 20 | | | 69' | | 17 | 12' | 10" |
| | | 69'-71' | D | 57 | 28 | 38 | | | Gray CLAY, fine Sand & Gravel mixed | 18 | 24' | 12" |
| | | | | | | 58 | | | | | | |
| | | | | | | | | 74' | | | | |
| | | 74'-76' | D | 23 | 30 | 59 | | | Gray silty fine SAND, trace of clay & fine gravel | 19 | 24' | 14" |
| | | | | | | 53 | | | | | | |
| | | | | | | | | 79' | 74' to 79' - Falling Head Permeability Test | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D = Dry C = Cored W = Washed
UP = Undisturbed Piston
TP = Test Pit A = Auger V = Vane Test
UT = Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density
0-10 Loose
10-30 Med. Dense
30-50 Dense
50 + Very Dense

Cohesive Consistency
0-4 Soft
4-8 M/Stiff
8-15 Stiff
15-30 V-Stiff
30 + Hard

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO CC 203

TOWN PRESS — EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 3 OF 4

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 203

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At 29'6" after 72 Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 79'-81' | D | 21 | 30 | 49 | | | Gray fine SAND, Silt, Clay & Gravel | 20 | 24" | 16" |
| | | | | | | 48 | | | | | | |
| | | 84'-86' | D | 27 | 33 | 120/4" | | | | 21 | 24' | 16" |
| | | | | | *41/2" | *152 | | 85'6" | | | | |
| | | 89'-89'1" | D | 162/1" | 10 1/0" | | Min/Ft | | 84' to 89' - Falling Head Permeability Test | 22 | 1" | 1" |
| | | 89'4"-92'7" | C | | | | 6 | | Core Bedrock (ARGILLITE) | C1 | 39' | 26" |
| | | | | | | | 10 | | | | | |
| | | | | | | | 14 | | | | | |
| | | 92'7"-95' | C | | | | 9 | | | C2 | 29' | 28" |
| | | | | | | | 8 | | | | | |
| | | 95'-97'9" | C | | | | 8 | | 93.5' - Pressure Meter Test | C3 | 33' | 30" |
| | | | | | | | 5 | | | | | |
| | | 97'9"-102' | C | | | | 7 | | | C4 | 39' | 30" |
| | | | | | | | 9 | | | | | |
| | | | | | | | 16 | | | | | |
| | | 102'-106' | C | | | | 8 | | | C5 | 48' | 27" |
| | | | | | | | 5 | | | | | |
| | | | | | | | 9 | | | | | |
| | | 106'-110' | C | | | | 17 | | | C6 | 48' | 44" |
| | | | | | | | 9 | | | | | |
| | | | | | | | 7 | | | | | |
| | | 110'-112'9" | C | | | | 14 | | 108.2' - Pressure Meter Test | C7 | 33' | 32" |
| | | | | | | | 15 | | | | | |
| | | 112'9" - 116'7" | C | | | | 7 | | | C8 | 46' | 44" |
| | | | | | | | 13 | | | | | |
| | | | | | | | 9 | | | | | |
| | | | | | | | 4 | | | | | |
| | | | | | | | 10 | | | | | |
| | | | | | | | 5 | | | | | |
| | | | | | | | 12 | | | | | |
| | | | | | | | 10 | | | | | |
| | | | | | | | 12 | | | | | |
| | | | | | | | 22 | | | | | |
| | | | | | | | 17 | | | | | |
| | | 116'7" - 120'7" | C | | | | 8 | | | C9 | 48' | 46" |
| | | | | | | | 11 | | | | | |
| | | | | | | | 10 | | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

| | |
|---|---|
| trace | 0 to 10% |
| little | 10 to 20% |
| some | 20 to 35% |
| and | 35 to 50% |

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO. CC 203

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 4 OF 4

TO _____ | ADDRESS _____

PROJECT NAME _____ | LOCATION _____

REPORT SENT TO _____ | PROJ. NO. _____

SAMPLES SENT TO _____ | OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 203

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR. |
|---|---|---|---|
| Type | | | |
| Size I D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | |
| COMPLETE | | |
| TOTAL HRS. | | |

BORING FOREMAN _____

INSPECTOR _____

SOILS ENGR. _____

LOCATION OF BORING _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 120'7" - 122'5" | C | | | | 9 3 10 | | Gray ARGILLITE | C10 | 22" | 12" |
| | | 122'5" - 124'9" | C | | | | 6 4 8 | | | C11 | 28" | 24" |
| | | 124'9" - 129'9" | C | | | | 11 9 12 13 | | | C12 | 60" | 48" |
| | | 129'9" - 133'9" | C | | | | 9 8 5 11 12 | | | C13 | 48" | 44" |
| | | 133'9" - 138'9" | C | | | | 8 7 11 14 13 | | | C14 | 60" | 50" |
| | | 138'9" - 142'6" | C | | | | 6 9 10 9 7 | | | C15 | 45" | 42" |
| | | 142'6"-145' | C | | | | 8 9 | 145' | | C16 | 30" | 28" |
| | | | | | | | | | Bottom of Boring 145' | | | |
| | | | | | | | | | Installed Piezometer @ 84' No. 684 | | | |
| | | | | | | | | | Installed 2" PVC at 37' 20' Slotted - 17' Plain 8 Bags of Ottawa Sand 7 Bags of Cement One 5" Road Box | | | |
| | | | | | | | | | Grout 96' to 40' Grout 145' to 85'6" | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type

D=Dry C=Cored W=Washed

UP=Undisturbed Piston

TP=Test Pit A=Auger V=Vane Test

UT=Undisturbed Thinwall

Proportions Used

trace 0 to 10%

little 10 to 20%

some 20 to 35%

and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density

0-10 Loose

10-30 Med. Dense

30-50 Dense

50+ Very Dense

Cohesive Consistency

0-4 Soft

4-8 M/Stiff

8-15 Stiff

15-30 V-Stiff

30+ Hard

SUMMARY:

Earth Boring _____

Rock Coring _____

Samples _____

HOLE NO. CC 203

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 3

TO Haley & Aldrich, Inc. | ADDRESS Cambridge, Mass.

PROJECT NAME Proposed Commonwealth | LOCATION Boston, Mass.

REPORT SENT TO above / Center | PROJ. NO. 05746-02

SAMPLES SENT TO " | OUR JOB NO. 89-573

DATE

HOLE NO. CC 204

LINE & STA.

OFFSET

SURF. ELEV. 36.25

GROUND WATER OBSERVATIONS

At 34'4" after 12 Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | HW-NW | S/S | |
| Size I.D. | 4" 3" | 1-3/8" | |
| Hammer Wt | Drilled | 140# | BIT |
| Hammer Fall | | 30" | |

| | Date | Time |
|---|---|---|
| START | 5/11/89 | a.m. p.m. |
| COMPLETE | 5/15/89 | a.m. p.m. |

TOTAL HRS.

BORING FOREMAN J. Texeira

INSPECTOR

SOILS ENGR.

LOCATION OF BORING:

| DEPTH | Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev. | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 8" | Black Top | | | |
| | | 1'-3' | D | 12 | 17 | 14 | | | Sand - Brick - Wood Fill | 1 | 24" | 4" |
| | | | | | | 10 | | | | 2 | 24" | 2" |
| | | 3'-5' | D | 8 | 6 | 7 | | | | | | |
| | | | | | | 10 | | | | 3 | 24" | 4" |
| | | 5'-7' | D | 3 | 4 | 8 | | | | | | |
| | | | | | | 6 | | | | 4 | 24" | 2" |
| | | 7'-9' | D | 5 | 6 | 7 | | | | | | |
| | | | | | | 3 | | | | 5 | 24" | 2" |
| | | 9'-11' | D | 2 | 4 | 5 | | | | | | |
| | | | | | | 11 | | 11' | | 6 | 6" | 0" |
| | | 11'-11'6" | D | 8 | 101/0" | | | | Brick | | | |
| | | | | | | | | 14' | Fill | 7 | 12" | 4" |
| | | 14'-15' | D | Wt. | Rods | | | | Coarse to fine pieces of Brick - Fill | 7A | 24" | 4" |
| | | 15'-17' | D | 100 | 19 | 6 | | 17' | Brown fine SAND with Wood Fill | 8 | 24" | 6" |
| | | | | | | 5 | | 19' | | | | |
| | | 17'-19' | D | 3 | 2 | 5 | | 20' | Brown SILT | 9 | 12" | 6" |
| | | | | | | 7 | | | fine SAND | 9A | 12" | 4" |
| | | 19'-20' | D | 4 | 6 | | | | | 10 | 24" | 12" |
| | | 20'-21' | D | 6 | 7 | | | | | | | |
| | | 21'-23' | D | 4 | 3 | 3 | | | | 11 | 24" | 8" |
| | | | | | | 3 | | | | 12 | 24" | 12" |
| | | 23'-25' | D | 4 | 4 | 7 | | | | | | |
| | | | | | | 8 | | | | 13 | 24" | 24" |
| | | 25'-27' | D | 4 | 5 | 6 | | | | | | |
| | | | | | | 9 | | | | 14 | 6" | 4" |
| | | 27'-29' | D | 11 | 11 | 13 | | | | 14A | 18" | 18" |
| | | | | | | 9 | | | | | | |
| | | 29'-29'6" | D | 6 | | | | 29'6" | | 15 | 6" | 4" |
| | | 29'6"-31' | D | 7 | 7 | 6 | | | Brown Silty CLAY | 15A | 18" | 12" |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 34'-34'6" | D | 10 | | | | 34'6" | | | | |
| | | 34'6"-36' | D | 11 | 8 | 13 | | | Brown silty fine SAND | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | 39' | | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D: Dry C: Cored W: Washed
UP: Undisturbed Piston
TP: Test Pit A: Auger V: Vane Test
UT: Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50 + | Very Dense | 15-30 | V-Stiff |
| | | 30 + | Hard |

SUMMARY

Earth Boring 81'

Rock Coring

Samples 24

HOLE NO CC 204

TOWN PRESS - EAST PROV

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 2 OF 3

TO _____ ADDRESS _____

PROJECT NAME _____ LOCATION _____

REPORT SENT TO _____ PROJ. NO. _____

SAMPLES SENT TO _____ OUR JOB NO. 89-573

DATE _____

HOLE NO. CC 204

LINE & STA. _____

OFFSET _____

SURF. ELEV. _____

GROUND WATER OBSERVATIONS

At ____ after ____ Hours

At ____ after ____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I.D. | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time |
|---|---|---|
| START | | a.m. p.m. |
| COMPLETE | | a.m. p.m. |
| TOTAL HRS. | | |
| BORING FOREMAN | | |
| INSPECTOR | | |
| SOILS ENGR. | | |

LOCATION OF BORING: _____

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc. | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 39'-41' | D | 13 | 22 | 25 | | | Brown fine to medium SAND, little silt | 16 | 24 | 20" |
| | | | | | | 31 | | | | | | |
| | | 44'-46' | D | 17 | 23 | 28 | | | | 17 | 24 | 18" |
| | | | | | | 31 | | | | | | |
| | | 49'-50'11" | D | 35 | 68 | 100/4" | | | | 18 | 23 | 23" |
| | | | | | 17/2"* | 70/5"* | | | | | | |
| | | 54'6"-55' | D | 8 | | | | | 52' to 54' - Falling Head Permeability Test | 19 | 6" | 4" |
| | | | | | | | | 55' | | | | |
| | | 55'-56'6" | D | 9 | 9 | 12 | | | Gray CLAY | 19A | 18 | 18" |
| | | 59'-61' | D | 8 | 7 | 10 | | | | 20 | 24 | 19" |
| | | | | | | 10 | | | | | | |
| | | | | | | | | 63'8" | | | | |
| | | 64'-66' | D | 72 | 100/4" | 12/2"* | | | Gray SILT, fine to medium Sand, fine Gravel, Clay | 21 | 24 | 14" |
| | | | | | 12* | 14* | | | | | | |
| | | (* denotes 300# Wt. on Spoon) | | | | | | 68' | | | | |
| | | 69'-71' | D | 31 | 28 | 37 | | | Gray silty fine SAND, trace coarse to medium sand, coarse to fine gravel | 22 | 24 | 10" |
| | | | | | | 53 | | | | | | |
| | | 74'-76' | D | 68 | 66/2" | 29/4"* | | | | 23 | 24 | 12" |
| | | | | | 30* | 33* | | | | | | |
| | | 79'-81' | D | 26 | 74 | 64 | 83 | | | 24 | 24 | 12" |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | |
|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft |
| 10-30 | Med. Dense | 4-8 | M/Stiff |
| 30-50 | Dense | 8-15 | Stiff |
| 50+ | Very Dense | 15-30 | V-Stiff |
| | | 30+ | Hard |

SUMMARY:
Earth Boring _____
Rock Coring _____
Samples _____

HOLE NO. CC 204

TOWN PRESS - EAST PROV.

# GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I

SHEET 3 OF 3
DATE
HOLE NO. CC 204
LINE & STA.
OFFSET
SURF. ELEV.

TO
ADDRESS
PROJECT NAME
LOCATION
REPORT SENT TO
PROJ. NO
SAMPLES SENT TO
OUR JOB NO. 89-573

GROUND WATER OBSERVATIONS

At _____ after _____ Hours

At _____ after _____ Hours

| | CASING | SAMPLER | CORE BAR |
|---|---|---|---|
| Type | | | |
| Size I D | | | |
| Hammer Wt | | | BIT |
| Hammer Fall | | | |

| | Date | Time | |
|---|---|---|---|
| START | | | a.m. p.m. |
| COMPLETE | | | a.m. p.m. |
| TOTAL HRS. | | | |

BORING FOREMAN
INSPECTOR
SOILS ENGR.

LOCATION OF BORING

| DEPTH | Casing Blows per foot | Sample Depths From - To | Type of Sample | Blows per 6" on Sampler From 0-6 | To 6-12 | To 12-18 | Moisture Density or Consist. | Strata Change Elev | SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc Rock-color, type, condition, hardness, Drilling time, seams and etc | SAMPLE No | Pen | Rec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 81' | | | | |
| | | | | | | | | | Bottom of Boring 81' | | | |
| | | | | | | | | | Installed Piezometer @ 47'8" No. 682 | | | |
| | | | | | | | | | Installed 2" PVC at 39' | | | |
| | | | | | | | | | 15' Slotted - 25' Plain | | | |
| | | | | | | | | | 6 Bags of Ottawa Sand | | | |
| | | | | | | | | | 6 Bags of Cement | | | |
| | | | | | | | | | 1/2 Case of Pellets | | | |
| | | | | | | | | | One 5" Road Box | | | |
| | | | | | | | | | Time: One Hour - 15 Mins. | | | |
| | | | | | | | | | Grout Hole from 81' to 50' | | | |

GROUND SURFACE TO _____ USED _____ "CASING: THEN _____

Sample Type
D=Dry C=Cored W=Washed
UD=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
TW=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

| Cohesionless Density | | Cohesive Consistency | | |
|---|---|---|---|---|
| 0-10 | Loose | 0-4 | Soft | 30 + Hard |
| 10-30 | Med. Dense | 4-8 | M/Stiff | |
| 30-50 | Dense | 8-15 | Stiff | |
| 50 + | Very Dense | 15-30 | V-Stiff | |

SUMMARY:
Earth Boring
Rock Coring
Samples

HOLE NO CC 204

# Appendix E

# APPENDIX E

## Groundwater Observation Well Installation and Monitoring Reports

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

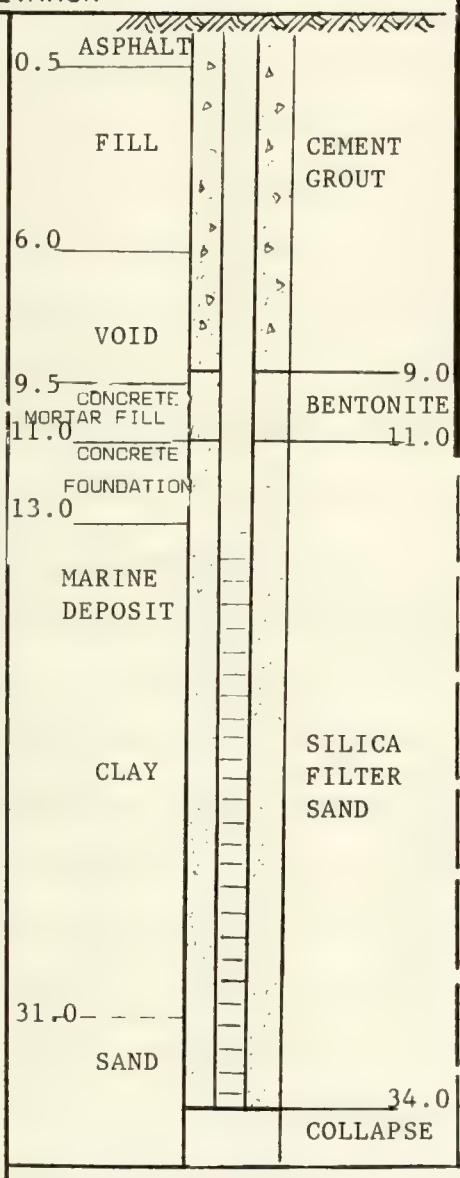
WELL NO. CCE1A-OW
FILE NO. 05746-41

PROJECT Commonwealth Center
LOCATION Boston, MA
CLIENT F. D. Rich Co.
CONTRACTOR Guild Drilling Co.
DRILLER Salvatore Triolo

BORING NO. CCE1A
LOCATION see plan
INSTALLATION DATE 12 JUN 89
H&A REP Brad A. Miller

SURVEY DATUM BCB
GROUND ELEVATION 30.51

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 37.0 ft.

| | |
|---|---|
| ~~ELEVATION OR~~ STICKUP ABOVE/~~BELOW~~ GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ~~ELEVATION OR~~ STICKUP BELOW ~~BELOW~~ GROUND SURFACE OF RISER PIPE | 0.1 ft. |
| THICKNESS OF SURFACE SEAL | 11.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0-9.0 ft Cement<br>9.0-11.0 ft Bentonite |
| TYPE OF CASING | ~~Roadway Box~~ |
| INSIDE DIAMETER OF CASING | 3.75 in. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Silica Sand |
| DIAMETER OF BOREHOLE | ±8.0 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF RISER | 14.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF POINT | 34.0 ft. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF BOREHOLE | 37.0 ft. |

[FIGURES REFER TO: EL. _____ DEPTH X]

| LENGTH OF CASING ($L_3$) | LENGTH OF RISER PIPE ($L_1$) | + LENGTH OF POINT ($L_2$) | = PAY LENGTH |
|---|---|---|---|
| 2.0 ft. | 14.0 ft. | 20.0 ft. | 34.0 ft. |

Form 59 Rev. Dec. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE1A-0W

ELEVATION SUBTRAHEND 30.51 ft.

FILE NO. 05746-41

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 12 June 89 | 0700 | - | 19.0 | 11.5 | | BAM |
| 19 June 89 | 0638 | 7 Days | 24.5 | 6.0 | | BAM |
| 29 June 89 | 1230 | 17 Days | 24.9 | 5.6 | | JPN |
| 6 Sept. 89 | 0830 | 86 Days | 24.4 | 6.1 | | KD |
| 19 Sept. 89 | 0640 | 99 Days | 24.5 | 6.0 | | KD |

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

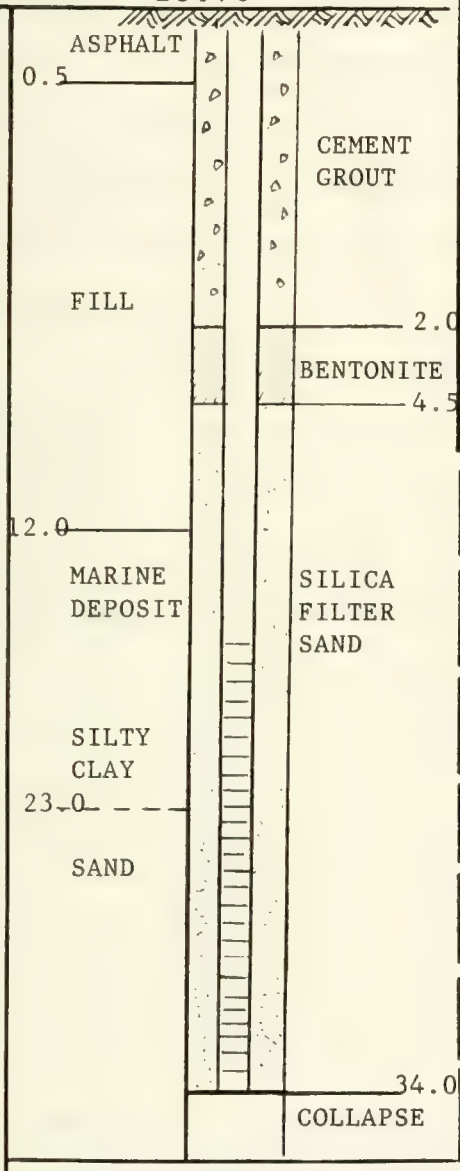
WELL NO. CCE2-GW
FILE NO. 05746-41

PROJECT Commonwealth Center
LOCATION Boston, MA
CLIENT F. D. Rich Co.
CONTRACTOR Guild Drilling Co.
DRILLER Salvatore Triolo

BORING NO. CCE2
LOCATION see plan
INSTALLATION DATE 13 June 89
H&A REP Brad A. Miller

SURVEY DATUM BCB
GROUND ELEVATION 28.70

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 37.0 ft.

| | |
|---|---|
| ~~ELEVATION OR~~ STICKUP ABOVE/~~BELOW~~ GROUND SURFACE OF CASING OR ROADWAY BOX | 0.1 ft. |
| ~~ELEVATION OR~~ STICKUP BELOW ~~ABOVE~~ GROUND SURFACE OF RISER PIPE | 0.1 ft. |
| THICKNESS OF SURFACE SEAL | 4.5 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0-2.0 ft. Cement, 2.0-4.5 ft. Bentonite |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 3.75 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Silica Sand |
| DIAMETER OF BOREHOLE | ±8.0 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF RISER | 14.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF POINT | 34.0 ft. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF BOREHOLE | 37.0 ft. |

[FIGURES REFER TO: EL. _____ DEPTH X]

| 2.0 ft. | 14.0 ft. | + | 20.0 ft. | = | 34.0 ft. |
|---|---|---|---|---|---|
| LENGTH OF CASING ($L_3$) | LENGTH OF RISER PIPE ($L_1$) | | LENGTH OF POINT ($L_2$) | | PAY LENGTH |

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE2-0W

ELEVATION SUBTRAHEND 28.70 ft.

FILE NO. 05746-41

PAGE NO.

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 13 June 89 | 1000 | - | 23.0 | 5.7 | | BAM |
| 19 June 89 | 0645 | 6 Days | 29.3 | - 0.6 | | BAM |
| 6 Sept. 89 | 0835 | 85 Days | 29.2 | - 0.5 | | KD |
| 19 Sept. 89 | 0640 | 98 Days | 29.4 | - 0.7 | | KD |

Haley & Aldrich, Inc.

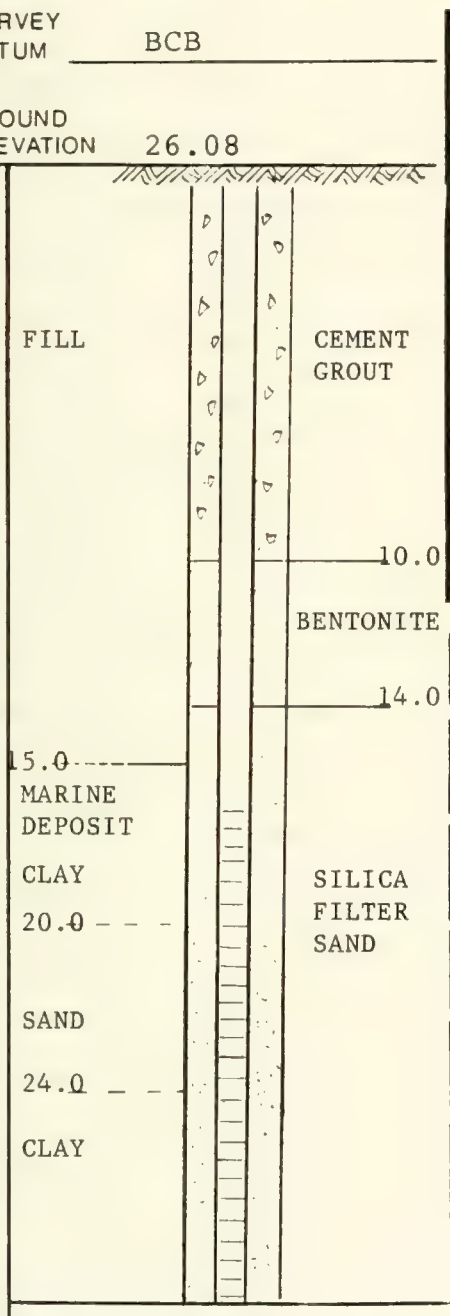
# GROUNDWATER OBSERVATION WELL REPORT

WELL NO. CCE3-OW
FILE NO. 05746-41

PROJECT COMMONWEALTH CENTER
LOCATION BOSTON, MA
CLIENT F. D. RICH COMPANY, INC.
CONTRACTOR GUILD DRILLING CO., INC.
DRILLER G. BROUILLETTE

BORING NO. CCE-3
LOCATION SEE PLAN
INSTALLATION DATE 9 Aug. 89
H&A REP S. KELLY

SURVEY DATUM BCB
GROUND ELEVATION 26.08




SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)

| | |
|---|---|
| ~~ELEVATION OR~~ STICKUP ABOVE/~~BELOW~~ GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ~~ELEVATION OR~~ STICKUP ~~ABOVE~~/BELOW GROUND SURFACE OF RISER PIPE | 0.4 ft. |
| THICKNESS OF SURFACE SEAL | 14.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0'-10.0' Cem. Grout/ 10.0'-14.0' Bentonite |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 3.0 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cem. Grout, Bentonite |
| DIAMETER OF BOREHOLE | 4.0 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF RISER | 16.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF POINT | 36.0 ft. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF BOREHOLE | 36.0 ft. |

Bottom of Exploration at 36.0 ft.

[FIGURES REFER TO: EL. _____ DEPTH X]

[2.0 ft. LENGTH OF CASING ($L_3$)] [16.0 ft. LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. LENGTH OF POINT ($L_2$) = 36.0 ft. PAY LENGTH]

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE3-OW

ELEVATION SUBTRAHEND 26.08 ft.

FILE NO. 05746-41

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 18 Aug 89 | 0642 | 11 Days | 19.8 | 6.3 | | AGT |
| 19 Sept. 89 | 0640 | 43 Days | 25.1 | 1.0 | | KD |

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

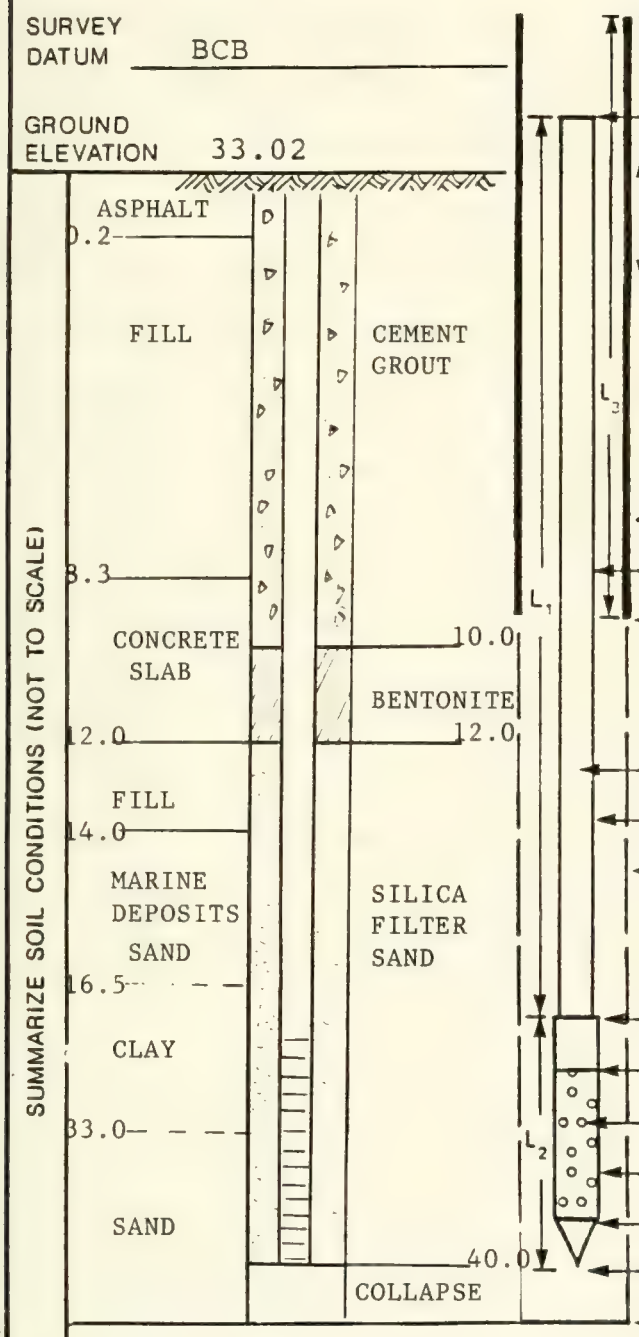
WELL NO. CCE4-OW
FILE NO. 05746-41

PROJECT Commonwealth Center
LOCATION Boston, MA
CLIENT F. D. Rich Co.
CONTRACTOR Guild Drilling Co.
DRILLER Salvatore Triolo

BORING NO. CCE4
LOCATION see plan

INSTALLATION DATE 15 June 89
H&A REP Brad A. Miller

SURVEY DATUM BCB
GROUND ELEVATION 33.02




| | |
|---|---|
| ~~ELEVATION OR~~ STICKUP ABOVE ~~BELOW~~ GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ~~ELEVATION OR~~ STICKUP BELOW ~~BELOW~~ GROUND SURFACE OF RISER PIPE | 0.1 ft. |
| THICKNESS OF SURFACE SEAL | 12.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0-10.0 ft. Cement, 10.0-12.0 ft. Bentonite |
| TYPE OF CASING | ~~Roadway Box~~ |
| INSIDE DIAMETER OF CASING | 3.75 in. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Silica Sand |
| DIAMETER OF BOREHOLE | ±8.0 in. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF RISER | 20.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF POINT | 40.0 ft. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF BOREHOLE | 42.0 ft. |

Bottom of Exploration at 42.0 ft.

[FIGURES REFER TO: EL. _____ DEPTH X]

[2.0 ft. LENGTH OF CASING ($L_3$)] [20.0 ft. LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. LENGTH OF POINT ($L_2$) = 40.0 ft. PAY LENGTH]

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE4-0W

ELEVATION SUBTRAHEND 33.02 ft.

FILE NO. 05746-41

PAGE NO.

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 5 June 89 | 1300 | - | 30.0 | 3.0 | | BAM |
| 9 June 89 | 0705 | 4 Days | 29.1 | 3.9 | | BAM |
| 7 June 89 | 1135 | 12 Days | 29.2 | 3.8 | | JPN |
| 6 Sept. 89 | 0827 | 83 Days | 29.6 | 3.4 | | KD |
| 19 Sept. 89 | 0640 | 96 Days | 29.8 | 3.2 | | KD |

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

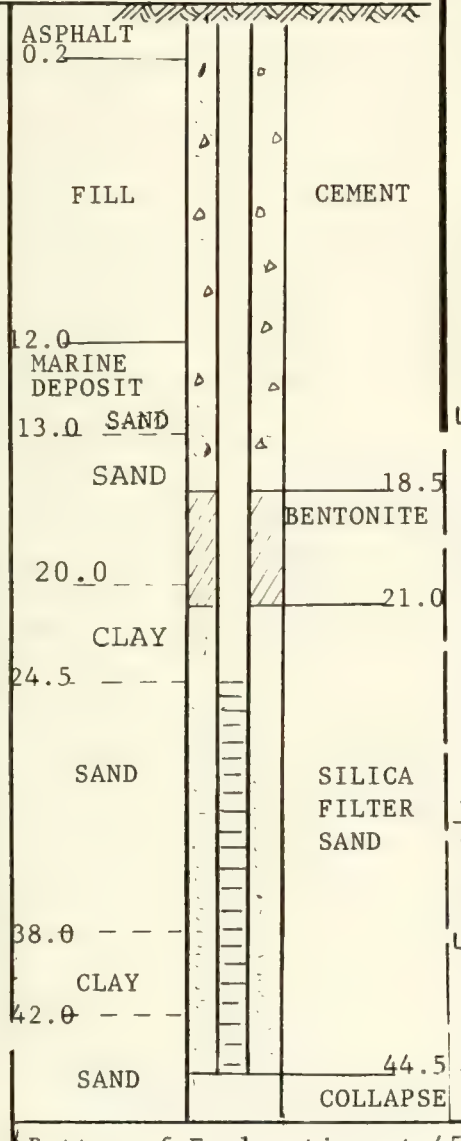
WELL NO. CCE5-OW
FILE NO. 05746-41

PROJECT Commonwealth Center
LOCATION Boston, MA
CLIENT F. D. Rich Co.
CONTRACTOR Guild Drilling Co.
DRILLER Salvatore Triolo

BORING NO. CCE5
LOCATION see plan
INSTALLATION DATE 8/9 June 89
H&A REP Brad A. Miller

SURVEY DATUM BCB
GROUND ELEVATION 34.59

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 45.0 ft.

| | |
|---|---|
| ~~ELEVATION OR~~ STICKUP ABOVE/~~BELOW~~ GROUND SURFACE OF CASING OR ROADWAY BOX | 0.1 ft. |
| ~~ELEVATION OR~~ STICKUP BELOW ~~TOP OF~~ GROUND SURFACE OF RISER PIPE | 0.0 ft. |
| THICKNESS OF SURFACE SEAL | 21.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0-18.5 ft. Cement, 18.5-21.0 ft. Bentonite |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 3.75 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Silica Sand |
| DIAMETER OF BOREHOLE | ±8.0 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF RISER | 24.5 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF POINT | 44.5 ft. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF BOREHOLE | 45.0 ft. |

[FIGURES REFER TO: EL. _____ DEPTH X]

| | | | | |
|---|---|---|---|---|
| 2.0 ft. | 24.5 ft. | + 20.0 ft. | = | 44.5 ft. |
| LENGTH OF CASING ($L_3$) | LENGTH OF RISER PIPE ($L_1$) | LENGTH OF POINT ($L_2$) | | PAY LENGTH |

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE5-OW

ELEVATION SUBTRAHEND 34.59 ft.

FILE NO. 05746-41

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 8 June 89 | 1300 | - | 34.0 | 0.6 | | BAM |
| 19 June 89 | 0715 | 11 Days | 33.9 | 0.7 | | BAM |
| 27 June 89 | 1300 | 19 Days | 33.9 | 0.7 | | JPN |
| 6 Sept. 89 | 0825 | 90 Days | 33.8 | 0.8 | | KD |
| 9 Sept. 89 | 0640 | 103 Days | 34.0 | 0.6 | | KD |

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

WELL NO. CCE6-OW
FILE NO. 05746-41

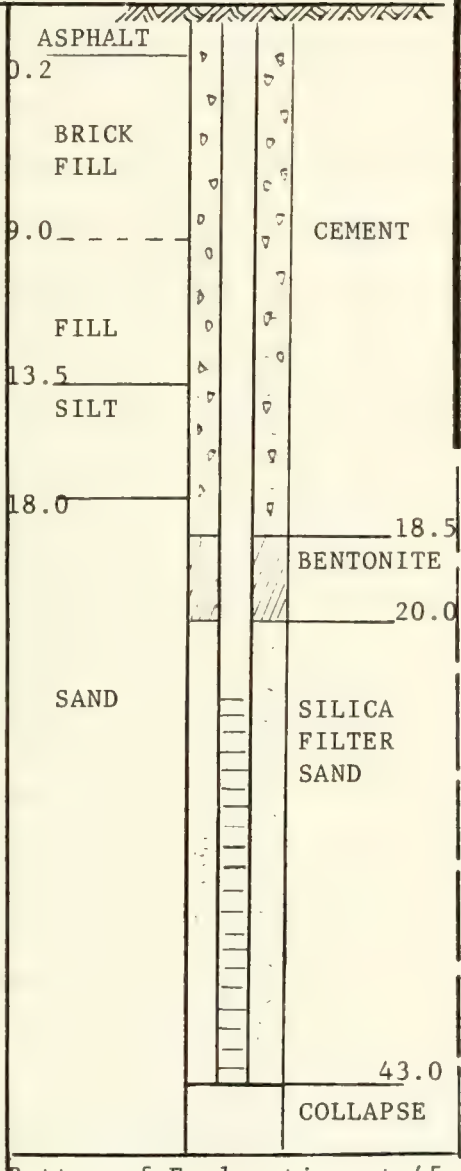
PROJECT Commonwealth Center
LOCATION Boston, MA
CLIENT F. D. Rich Co.
CONTRACTOR Guild Drilling Co.
DRILLER Salvatore Triolo

BORING NO. CCE6
LOCATION see plan

INSTALLATION DATE 7 June 89
H&A REP Brad A. Miller

SURVEY DATUM BCB
GROUND ELEVATION 34.97

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




| | |
|---|---|
| ~~ELEVATION OR~~ STICKUP ABOVE/~~BELOW~~ GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ~~ELEVATION OR~~ STICKUP BELOW ~~BELOW~~ GROUND SURFACE OF RISER PIPE | 0.0 ft. |
| THICKNESS OF SURFACE SEAL | 20.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0-18.5 ft. Cement, 18.5-20.0 ft. Bentonite |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 3.75 in. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Silica Sand |
| DIAMETER OF BOREHOLE | ±8.0 in. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF RISER | 23.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF POINT | 43.0 ft. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF BOREHOLE | 45.0 ft. |

[FIGURES REFER TO: EL. _____ DEPTH X]

| 2.0 ft. | 23.0 ft. | + | 20.0 ft. | = | 43.0 ft. |
|---|---|---|---|---|---|
| LENGTH OF CASING ($L_3$) | LENGTH OF RISER PIPE ($L_1$) | | LENGTH OF POINT ($L_2$) | | PAY LENGTH |

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE6-OW

ELEVATION SUBTRAHEND 34.97 ft.

FILE NO. 05746-41

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 6 June 89 | 1330 | - | 34.0 | 1.0 | | BAM |
| 19 June 89 | 0720 | 13 Days | 34.2 | 0.8 | | BAM |
| 29 June 89 | 0800 | 23 Days | 34.3 | 0.7 | | JPN |
| 6 Sept. 89 | 0820 | 92 Days | 34.1 | 0.9 | | KD |
| 19 Sept. 89 | 0640 | 105 Days | 34.4 | 0.6 | | KD |

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

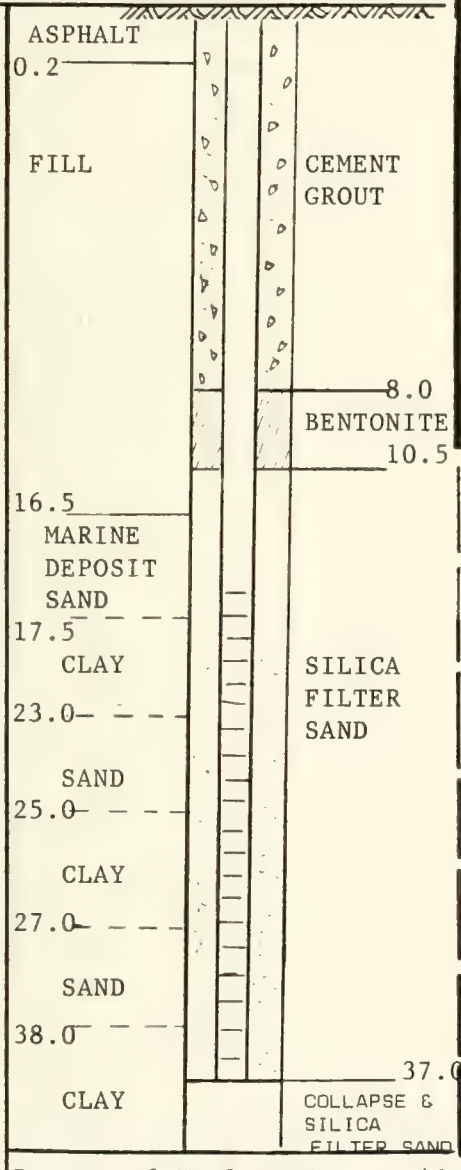
WELL NO. CCE7A-OW
FILE NO. 05746-41

PROJECT Commonwealth Center
LOCATION Boston, MA
CLIENT F. D. Rich Co.
CONTRACTOR Guild Drilling Co.
DRILLER Salvatore Triolo

BORING NO. CCE7A
LOCATION see plan
INSTALLATION DATE 20 June 89
H&A REP Brad A. Miller

SURVEY DATUM BCB
GROUND ELEVATION 37.68

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




| | |
|---|---|
| ~~ELEVATION OR~~ STICKUP ABOVE/~~BELOW~~ GROUND SURFACE OF CASING OR ROADWAY BOX | 0.1 ft. |
| ~~ELEVATION OR~~ STICKUP BELOW ~~GROUND~~ GROUND SURFACE OF RISER PIPE | 0.1 ft. |
| THICKNESS OF SURFACE SEAL | 10.5 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0-8.0 ft. Cement, 8.0-10.5 Bentonite |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 3.75 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Silica Sand |
| DIAMETER OF BOREHOLE | ±8.0 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF RISER | 17.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF POINT | 37.0 ft. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF BOREHOLE | 42.0 ft. |

[FIGURES REFER TO: EL. _____ DEPTH X]

[2.0 ft. (LENGTH OF CASING ($L_3$))] [17.0 ft. (LENGTH OF RISER PIPE ($L_1$)) + 20.0 ft. (LENGTH OF POINT ($L_2$)) = 37.0 ft. (PAY LENGTH)]

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE7A-OW

ELEVATION SUBTRAHEND 37.68

FILE NO. 05746-41

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 20 June 89 | 0745 | - | 28.3 | 9.4 | | BAM |
| 27 June 89 | 1415 | 7 Days | 30.4 | 7.3 | | JPN |
| 6 Sept. 89 | 0825 | 78 Days | 32.8 | 4.9 | | KD |
| 19 Sept. 89 | 0640 | 91 Days | 33.8 | 3.9 | | KD |

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

WELL NO. CCE9-OW
FILE NO. 05746-41

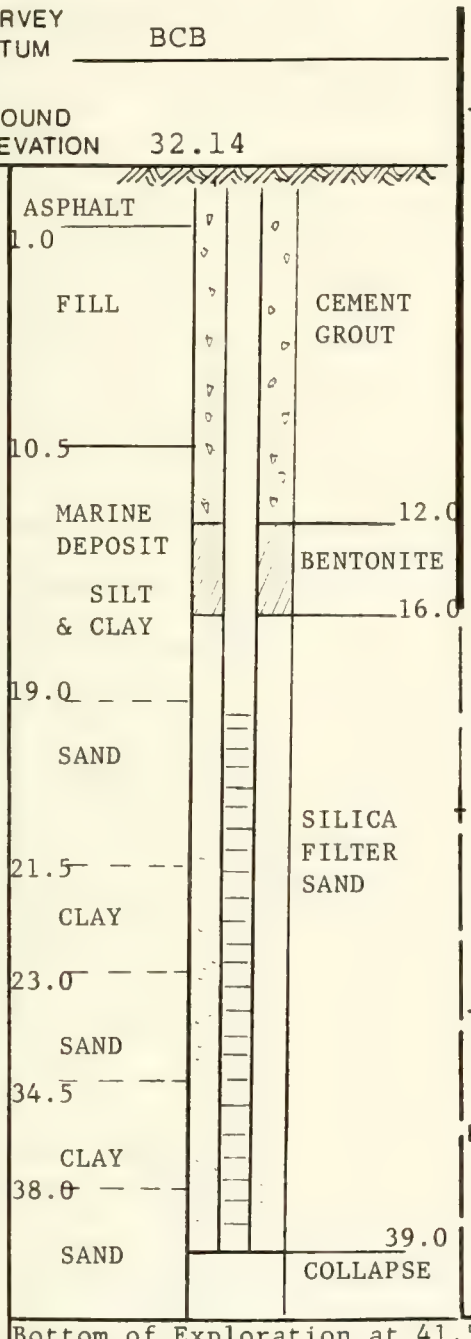
PROJECT Commonwealth Center
LOCATION Boston, MA
CLIENT F. D. Rich Co.
CONTRACTOR Guild Drilling Co.
DRILLER Salvatore Triolo

BORING NO. CCE9
LOCATION see plan

INSTALLATION DATE 16 June 89
H&A REP Brad A. Miller

SURVEY DATUM BCB
GROUND ELEVATION 32.14

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




| | |
|---|---|
| ~~ELEVATION OR~~ STICKUP ABOVE/~~BELOW~~ GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ~~ELEVATION OR~~ STICKUP BELOW ~~BELOW~~ GROUND SURFACE OF RISER PIPE | 0.1 ft. |
| THICKNESS OF SURFACE SEAL | 16.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0-12.0 ft. Cement, 12.0-16.0 ft. Bentonite |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 3.75 in. |
| ~~ELEVATION~~ DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Silica Sand |
| DIAMETER OF BOREHOLE | ±8.0 in. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF RISER | 19.5 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF POINT | 39.5 ft. |
| ~~ELEVATION~~/DEPTH OF BOTTOM OF BOREHOLE | 41.5 ft. |

[FIGURES REFER TO: EL. _____ DEPTH X]

| 2.0 ft. | 19.5 ft. | + | 20.0 ft. | = | 39.5 ft. |
|---|---|---|---|---|---|
| LENGTH OF CASING ($L_3$) | LENGTH OF RISER PIPE ($L_1$) | | LENGTH OF POINT ($L_2$) | | PAY LENGTH |

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE9-OW

ELEVATION SUBTRAHEND 32.14 ft.

FILE NO. 05746-41

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 6 June 89 | 1400 | 1.0 hr. | 31.6 | 0.5 | | BAM |
| 9 June 89 | 0630 | 3 Days | 31.7 | 0.4 | | BAM |
| 9 June 89 | 0855 | 13 Days | 31.8 | 0.3 | | JPN |
| 6 Sept. 89 | 0810 | 82 Days | 31.5 | 0.6 | | KD |
| 19 Sept. 89 | 0640 | 95 Days | 31.8 | 0.3 | | KD |

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

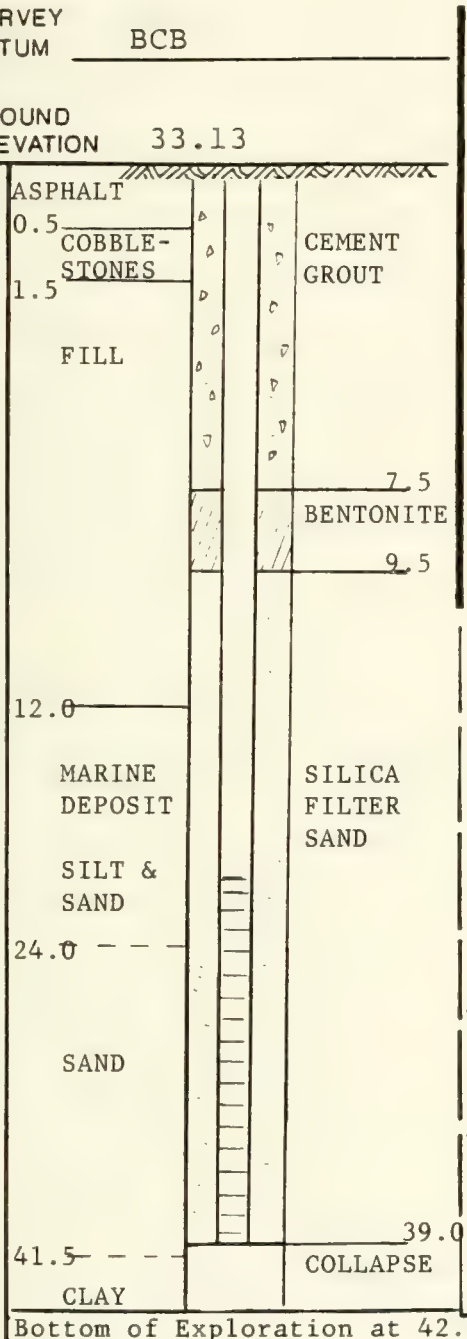
WELL NO. CCE11-OW
FILE NO. 05746-41

PROJECT Commonwealth Center
LOCATION Boston, MA
CLIENT F. D. Rich Co.
CONTRACTOR Guild Drilling Co.
DRILLER Salvatore Triolo

BORING NO. CCE11
LOCATION see plan
INSTALLATION DATE 31 May 89
H&A REP Brad A. Miller

SURVEY DATUM BCB
GROUND ELEVATION 33.13

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




| | |
|---|---|
| ~~ELEVATION OR~~ STICKUP ABOVE/~~BELOW~~ GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ~~ELEVATION OR~~ STICKUP BELOW ~~BELOW~~ GROUND SURFACE OF RISER PIPE | 0.1 ft. |
| THICKNESS OF SURFACE SEAL | 9.5 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0-7.5 ft. Cement<br>7.5-9.5 ft. Bentonite |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 3.75 in. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Silica Sand |
| DIAMETER OF BOREHOLE | ±8.0 in. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF RISER | 19.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF POINT | 39.0 ft. |
| ~~ELEVATION OR~~ DEPTH OF BOTTOM OF BOREHOLE | 42.0 ft. |

[FIGURES REFER TO: EL. _____ DEPTH X]

| LENGTH OF CASING ($L_3$) | LENGTH OF RISER PIPE ($L_1$) | + | LENGTH OF POINT ($L_2$) | = | PAY LENGTH |
|---|---|---|---|---|---|
| 2.0 ft. | 19.0 ft. | + | 20.0 ft. | = | 39.0 ft. |

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE11-OW

ELEVATION SUBTRAHEND 33.13 ft.

FILE NO. 05746-41



| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 31 May 89 | 0900 | - | 31.0 | 2.1 | | BAM |
| 2 June 89 | 0725 | 2 Days | 31.1 | 2.0 | | BAM |
| 9 June 89 | 0700 | 19 Days | 31.3 | 1.8 | | BAM |
| 27 June 89 | 0900 | 27 Days | 31.4 | 1.7 | | JPN |
| 29 Sept. 89 | 0640 | 111 Days | 31.4 | 1.7 | | KD |

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

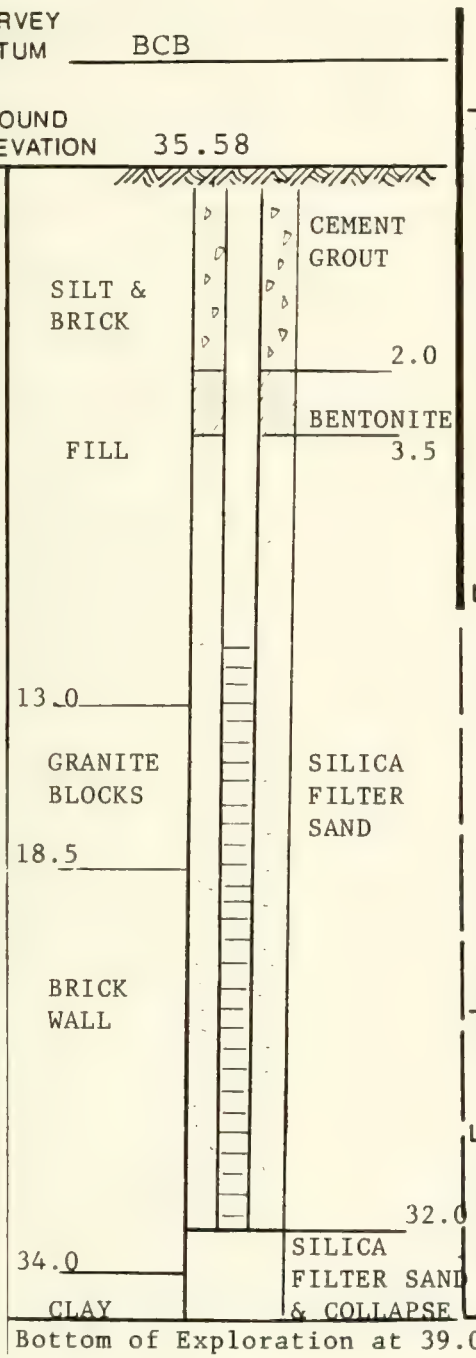
WELL NO. CCE12B-OW
FILE NO. 05746-41

PROJECT Commonwealth Center
LOCATION Boston, MA
CLIENT F. D. Rich Co.
CONTRACTOR Guild Drilling Co.
DRILLER Salvatore Triolo

BORING NO. CCE12B
LOCATION see plan
INSTALLATION DATE 5 June 89
H&A REP Brad A. Miller

SURVEY DATUM BCB
GROUND ELEVATION 35.58

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




| | |
|---|---|
| STICKUP ABOVE GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| STICKUP BELOW GROUND SURFACE OF RISER PIPE | 0.0 ft. |
| THICKNESS OF SURFACE SEAL | 3.5 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 0.0-2.0 ft. Cement, 2.0-3.5 ft. Bentonite |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 3.75 in. |
| DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Silica Sand |
| DIAMETER OF BOREHOLE | ±8.0 in. |
| DEPTH OF BOTTOM OF RISER | 12.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| DEPTH OF BOTTOM OF POINT | 32.0 ft. |
| DEPTH OF BOTTOM OF BOREHOLE | 39.0 ft. |

[FIGURES REFER TO: EL. _____ DEPTH X]

| 2.0 ft. | 12.0 ft. | + | 20.0 ft. | = | 32.0 ft. |
|---|---|---|---|---|---|
| LENGTH OF CASING ($L_3$) | LENGTH OF RISER PIPE ($L_1$) | | LENGTH OF POINT ($L_2$) | | PAY LENGTH |

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE12B-OW

ELEVATION SUBTRAHEND 35.58 ft.

FILE NO. 05746-41

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 19 June 89 | 0650 | 14 Days | 27.1 | 8.5 | | BAM |
| 27 June 89 | 0820 | 22 Days | 27.1 | 8.5 | | JPN |
| 6 Sept. 89 | 0815 | 93 Days | 27.1 | 8.5 | | KD |
| 19 Sept. 89 | 0640 | 106 Days | 27.0 | 8.6 | | KD |

Haley & Aldrich, Inc.

# GROUNDWATER OBSERVATION WELL REPORT

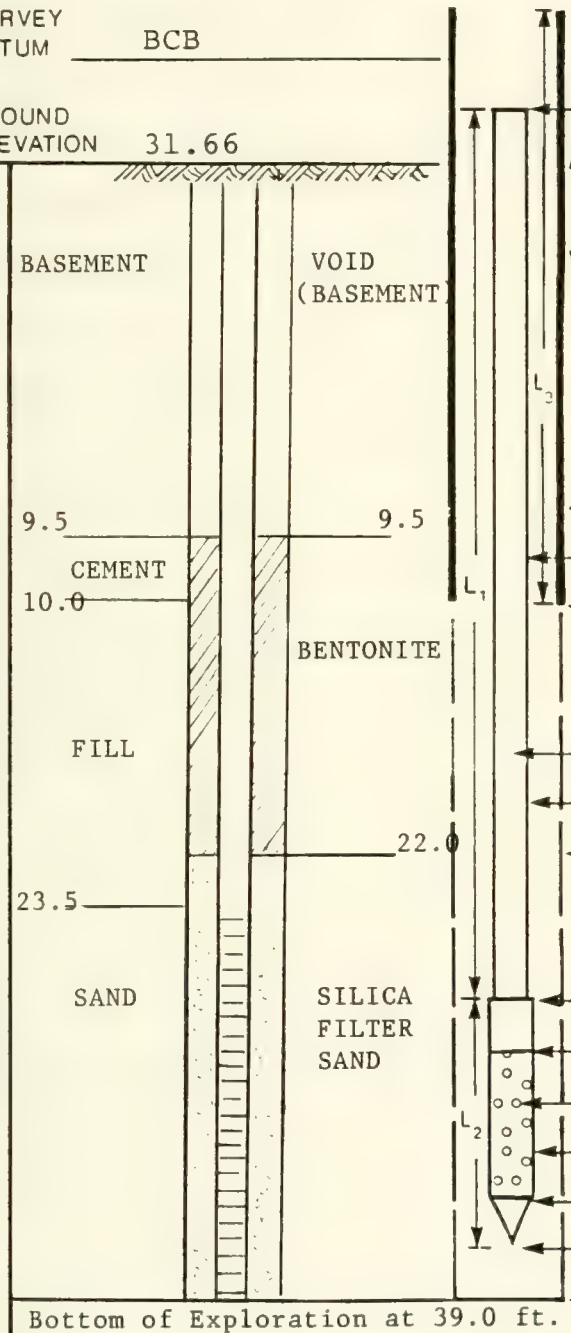
WELL NO. CCE13-OW
FILE NO. 05746-41

PROJECT COMMONWEALTH CENTER
LOCATION BOSTON, MA
CLIENT F. D. RICH COMPANY, INC.
CONTRACTOR GUILD DRILLING CO., INC.
DRILLER M. GUNNING

BORING NO. CCE-13
LOCATION SEE PLAN
INSTALLATION DATE 16 AUG.89
H&A REP S. KELLY

SURVEY DATUM BCB
GROUND ELEVATION 31.66

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




| | |
|---|---|
| ELEVATION OR STICKUP ABOVE/BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | N.A. |
| ~~ELEVATION OR~~ STICKUP ~~ABOVE~~/BELOW GROUND SURFACE OF RISER PIPE | 1.0 ft. |
| THICKNESS OF SURFACE SEAL | 13.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | 9.5'-22.0' Bentonite |
| TYPE OF CASING | None |
| INSIDE DIAMETER OF CASING | N.A. |
| ~~ELEVATION~~ DEPTH OF BOTTOM OF CASING | N.A. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Bentonite |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ~~ELEVATION~~ DEPTH OF BOTTOM OF RISER | 24.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ~~ELEVATION~~ DEPTH OF BOTTOM OF POINT | 39.0 ft. |
| ~~ELEVATION~~ DEPTH OF BOTTOM OF BOREHOLE | 39.0 ft. |

[FIGURES REFER TO: EL. _____ DEPTH X]

| N.A. | 25.0 ft. | + | 15.0 ft. | = | 40.0 ft. |
|---|---|---|---|---|---|
| LENGTH OF CASING ($L_3$) | LENGTH OF RISER PIPE ($L_1$) | | LENGTH OF POINT ($L_2$) | | PAY LENGTH |

Form 59 Rev. Feb. 88

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CCE13-OW

ELEVATION SUBTRAHEND 31.66

FILE NO. 05746-41

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Top of casing (ft) | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 18 Aug 89 | 1015 | 9 Days | 32.9 | -1.3 | | AGT |
| 6 Sept. 89 | - | 19 Days | 32.9 | -1.3 | | KD |

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

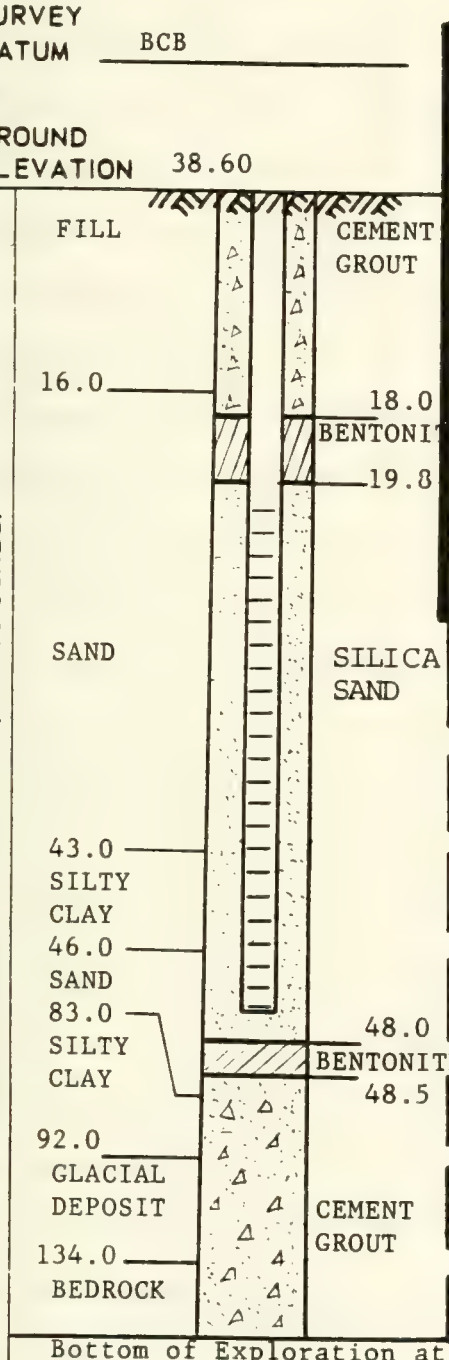
PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. Brouillette INSPECTOR: K. Dowe
INSTALLATION DATE 20 JUNE 89

FILE NO. 05746-02
WELL NO. CC101-0W
BORING NO. CC101
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 38.60

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 149.3 ft.

| | |
|---|---|
| ELEVATION OR STICKUP ABOVE GROUND SURFACE OF ROADWAY BOX | 0.0 |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.27 ft. |
| THICKNESS OF SURFACE SEAL | 18.0 ft. |
| TYPE OF SURFACE SEAL | Cement Grout |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | Steel Roadway Box |
| INSIDE DIAMETER OF CASING | 3.0 in. |
| ELEVATION DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grout |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 22.0 |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Filter Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 47.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 149.3 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [22.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 25.0 ft. / LENGTH OF POINT ($L_2$) = 47.0 ft / PAY LENGTH]

H&A Form 59 SEP 72

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC101 OW

ELEVATION SUBTRAHEND 38.60

FILE NO. 05746-02

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 27 JUN 89 | 6:30 | | 37.0 | 1.60 | | KD |
| 6 JUL 89 | 7:00 | | 38.7 | -0.10 | | KD |
| 18 JUL 89 | 6:30 | | 37.1 | 1.50 | | KD |
| 4 AUG 89 | 6:00 | | 37.0 | 1.60 | | SK |
| 6 SEP 89 | 7:25 | | 36.9 | 1.70 | | KD |
| 19 SEP 89 | 6:40 | | 37.0 | 1.60 | | KD |

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

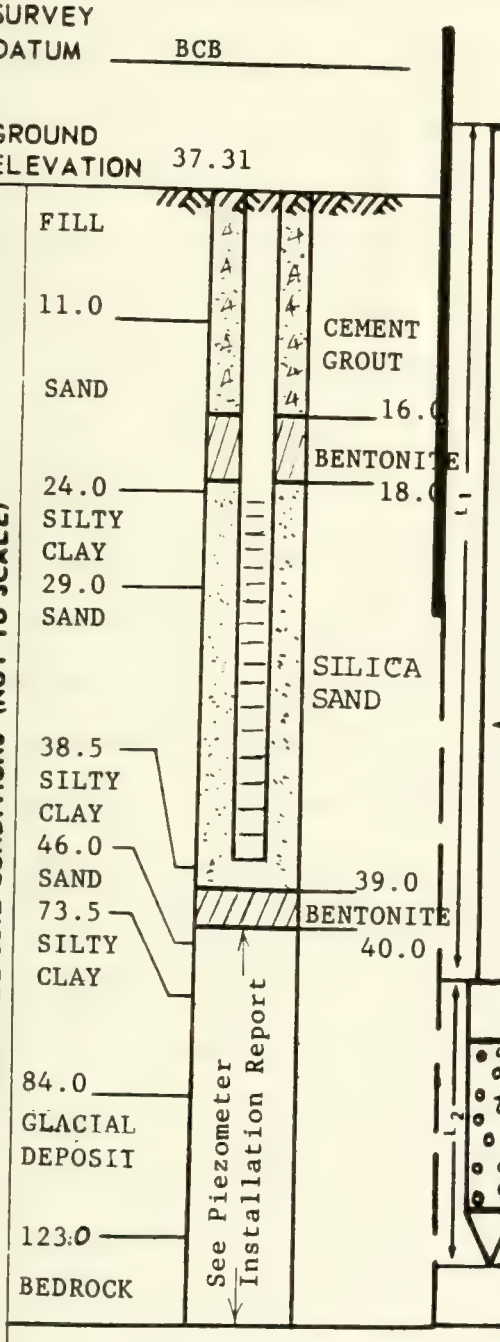
# GROUND WATER OBSERVATION WELL REPORT

PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. PETERSON INSPECTOR: W. RUBIK
INSTALLATION DATE 17 JULY 1989

FILE NO. 05746-02
WELL NO. CC102-OW
BORING NO. CC102
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB
GROUND ELEVATION 37.31

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 125.0 ft.

| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.5 ft. |
| THICKNESS OF SURFACE SEAL | 18.0 ft. |
| TYPE OF SURFACE SEAL | Bentonite Cement Grout |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 6.0 in. |
| ELEVATION DEPTH OF BOTTOM OF CASING | 1.35 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Seal |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 18.5 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PV( |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Ottawa Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 38.5 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 125.0 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[1.35 ft. / LENGTH OF CASING $L_3$] [18.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. / LENGTH OF POINT ($L_2$) = 38.0 ft. / PAY LENGTH]

H&A FORM SEP 72 59

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC102 OW

ELEVATION SUBTRAHEND 37.31

FILE NO. 05746-02

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 4 AUG 89 | 6:00 | | 35.7 | 1.61 | | SMK |
| 6 SEP 89 | 7:00 | | 35.55 | 1.76 | | KD |
| 19 SEP 89 | 6:40 | | 35.7 | 1.61 | | KD |

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

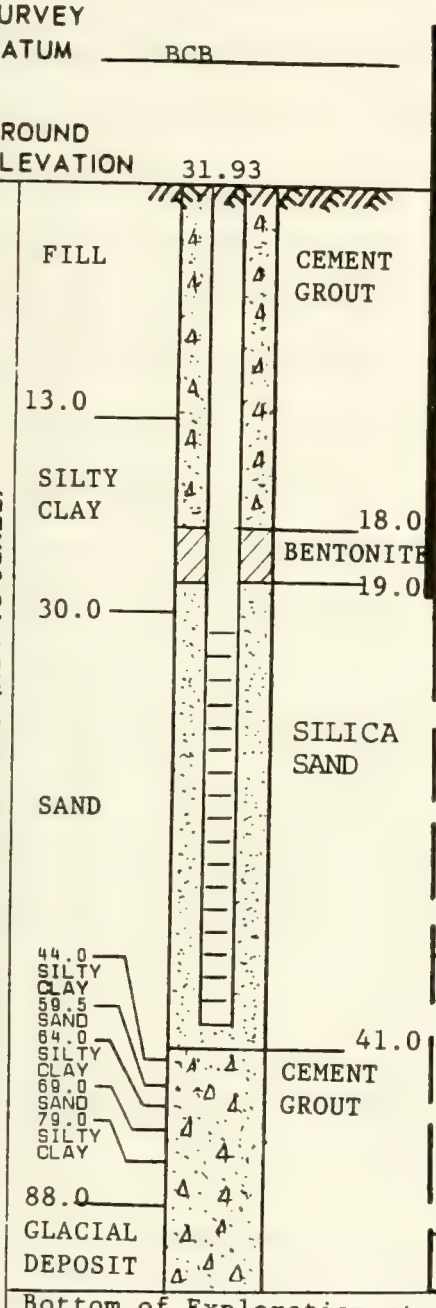
# GROUND WATER OBSERVATION WELL REPORT

PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: J. TEXEIRA INSPECTOR: S. KELLY
INSTALLATION DATE 6 JULY 1989

FILE NO. 05746-02
WELL NO. CC103-OW
BORING NO. CC103
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB
GROUND ELEVATION 31.93

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 129.1 ft.

| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.5 ft. |
| THICKNESS OF SURFACE SEAL | 19.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | Cement Grou |
| TYPE OF CASING | Steel Roadway Box |
| INSIDE DIAMETER OF CASING | 2.0 in. |
| ELEVATION DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grout |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 20.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 40.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 129.1 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [20.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. / LENGTH OF POINT ($L_2$)] = 40.0ft. / PAY LENGTH

H&A FORM SEP 72

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC103 OW

ELEVATION SUBTRAHEND 31.93

FILE NO. 05746-02

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 18 JUL 89 | 6:30 | | 26.9 | 5.03 | | KD |
| 4 AUG 89 | 6:00 | | - | - | car obstruction | SK |
| 6 SEP 89 | 7:35 | | 30.3 | 1.63 | | KD |
| 19 SEP 89 | 6:40 | | 30.4 | 1.53 | | KD |
| | | | | | | |
| | | | | | | |
| | | | | | |

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

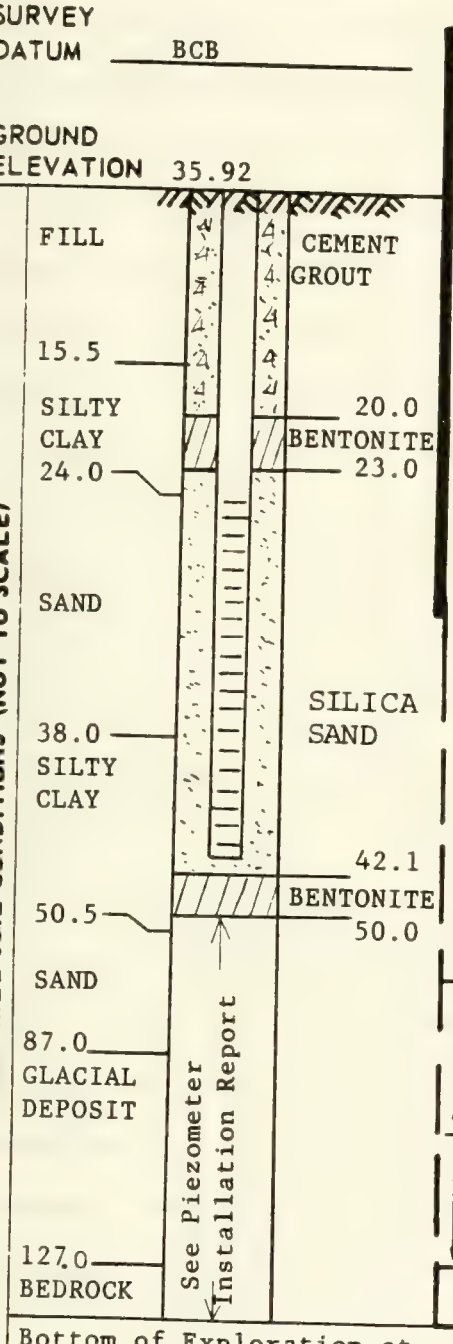
PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. Brouillette INSPECTOR: K. Dowe
INSTALLATION DATE 28 JUNE 1989

FILE NO. 05746-02
WELL NO. CC105-0W
BORING NO. CC105
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 35.92

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 138.0 ft.

| | |
|---|---|
| ~~STICKUP ABOVE BELOW~~ GROUND SURFACE ~~OF ROADWAY BOX~~ | 0.0 ft. |
| ~~OR STICKUP ABOVE BELOW~~ GROUND SURFACE OF RISER PIPE. | 0.35 ft. |
| THICKNESS OF SURFACE SEAL | 20.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | Cement Grou |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 5.0 in. |
| ~~DEPTH~~ DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grout |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ~~ELEVATION~~ DEPTH OF BOTTOM OF RISER | 25.2 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ~~ELEVATION~~ DEPTH OF BOTTOM OF POINT | 40.2 ft. |
| ~~ELEVATION~~ DEPTH OF BOTTOM OF BOREHOLE | 138.0 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [25.0 ft. / LENGTH OF RISER PIPE ($L_1$)] + [15.0 ft. / LENGTH OF POINT ($L_2$)] = [40.0 ft. / PAY LENGTH]

H&A FORM 59 SEP 72

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC105 OW | ELEVATION SUBTRAHEND 35.92 | FILE NO. 05746-02 | PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 6 JUL 89 | 7:00 | | 26.25 | 9.67 | | KD |
| 18 JUL 89 | 6:30 | | 24.6 | 11.32 | | KD |
| 4 AUG 89 | 6:00 | | 23.7 | 12.22 | | SK |
| 6 SEP 89 | 7:30 | | 24.2 | 11.72 | | KD |
| 19 SEP 89 | 6:40 | | 24.1 | 11.82 | | KD |

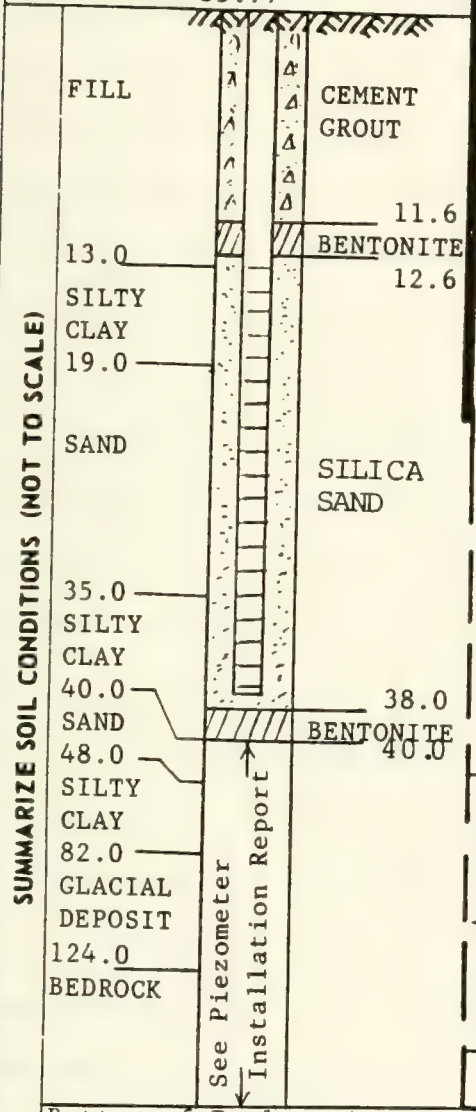
HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. Brouillette INSPECTOR: K. Dowe
INSTALLATION DATE 13 JUNE 1989

FILE NO. 05746-02
WELL NO. CC106-0W
BORING NO. CC106
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB
GROUND ELEVATION 35.77




| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.45 ft. |
| THICKNESS OF SURFACE SEAL | 11.6 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | Cement Grou |
| TYPE OF CASING | Steel Roadway Box |
| INSIDE DIAMETER OF CASING | 6.0 in. |
| ELEVATION DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grou |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 15.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Filter Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 35.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 135.0 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. LENGTH OF CASING $L_3$] [15.0 ft. LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. LENGTH OF POINT ($L_2$) = 35.0 ft. PAY LENGTH]

H&A FORM SEP 72 59

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC106 OW

ELEVATION SUBTRAHEND 35.77

FILE NO. 05746-02

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 27 JUN 89 | 6:30 | | 19.9 | 15.87 | | KD |
| 6 JUL 89 | 7:00 | | 19.5 | 16.27 | | KD |
| 18 JUL 89 | 6:30 | | 19.4 | 16.37 | | KD |
| 4 AUG | 6:00 | | 19.6 | 16.17 | | SK |
| 6 SEP 89 | 7:15 | | 19.95 | 15.82 | | KD |
| 19 SEP 89 | 6:40 | | 18.25 | 17.52 | | KD |
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H&A FORM JAN. 78 SPA

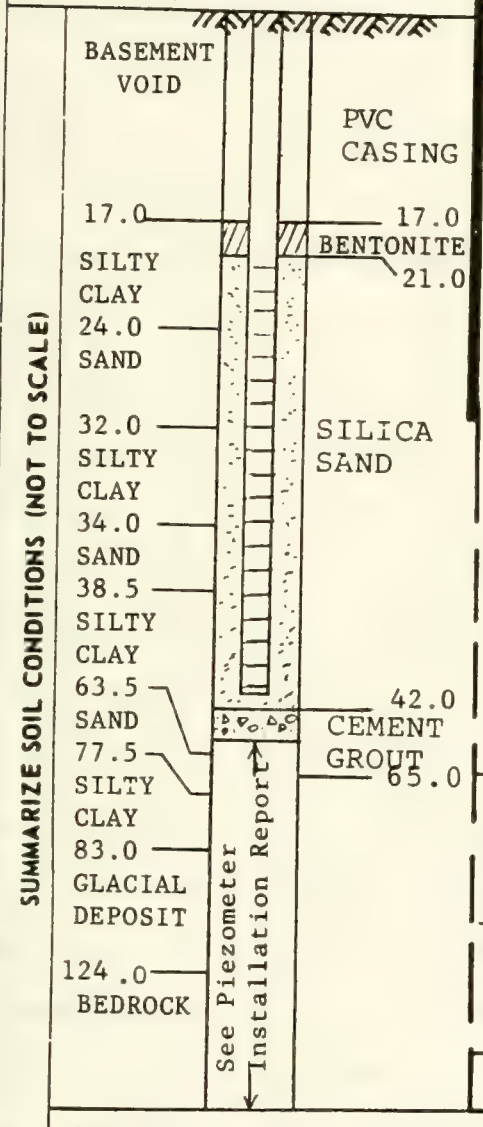
HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: J. TEXEIRA INSPECTOR: S. KELLY
INSTALLATION DATE 30 JUNE 1989

FILE NO. 05746-02
WELL NO. CC107-0W
BORING NO. CC107
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB
GROUND ELEVATION 32.76




| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.75 ft. |
| THICKNESS OF SURFACE SEAL | 5.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | Bentonite |
| TYPE OF CASING | 3-in. PVC Casing and Steel Roadway Box |
| INSIDE DIAMETER OF CASING | 6.0 in. |
| ELEVATION DEPTH OF BOTTOM OF CASING ROADWAY BOX (PVC CASING THROUGH BASEMENT = 17 FT.) | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | void |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 21.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 41.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 165.0 ft. |

Bottom of Exploration at 164.8 ft.

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [21.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. / LENGTH OF POINT ($L_2$) = 41.0 ft. / PAY LENGTH]

H&A FORM SEP 72 59

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC107 OW

ELEVATION SUBTRAHEND 32.76

FILE NO. 05746-02

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 6 JUL 89 | 7:00 | | 32.9 | -0.14 | | KD |
| 18 JUL 89 | 6:30 | | 32.2 | 0.56 | | KD |
| 4 AUG 89 | 6:00 | | - | - | dumpster obstruction | SK |
| 6 SEP 89 | 7:35 | | - | - | dumpster obstruction | KD |
| 19 SEP 89 | 6:40 | | 31.95 | 0.81 | | KD |
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H&A JAN. 70 59A

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. Brouillette INSPECTOR: S. Kelly
INSTALLATION DATE 26 MAY 1989

FILE NO. 05746-02
WELL NO. CC109-0W
BORING NO. CC109
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB
GROUND ELEVATION 33.88

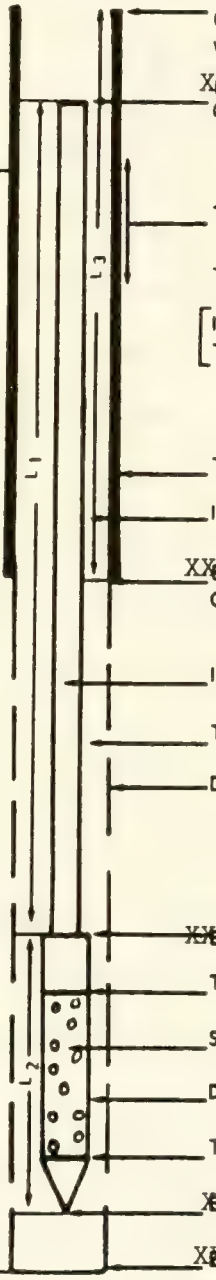
SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)

FILL
12.0
SILTY CLAY
18.0
24.0
SAND
37.5
SILTY CLAY
60.0
SAND
68.0
SILTY CLAY
77.5
GLACIAL DEPOSIT
113.0
BEDROCK

CEMENT GROUT
BENTONITE
21.0
SILICA SAND
40.0
BENTONITE
45.0

See Piezometer Installation Report

Bottom of Exploration at 161.5 ft.




| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.4 ft. |
| THICKNESS OF SURFACE SEAL | 21.0 ft. |
| TYPE OF SURFACE SEAL | Cement Grou |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | Steel Roadway Box |
| INSIDE DIAMETER OF CASING | 6.0 in. |
| ELEVATION DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grou |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 23.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Filter Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 38.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 161.5 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [23.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 15.0 ft. / LENGTH OF POINT ($L_2$) = 38.0 ft. / PAY LENGTH]

H&A FORM 59 SEP 72

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC109 OW

ELEVATION SUBTRAHEND 33.88

FILE NO. 05746-02
PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 2 JUN 89 | 6:00 | | 23.0 | 10.88 | | SK |
| 9 JUN 89 | 7:00 | | 22.25 | 11.63 | | SK |
| 27 JUN 89 | 6:30 | | 22.2 | 11.68 | | KD |
| 6 JUL 89 | 7:00 | | 23.0 | 10.88 | | KD |
| 18 JUL 89 | 6:30 | | 22.2 | 11.68 | | KD |
| 4 AUG 89 | 6:00 | | 22.1 | 11.78 | | SK |
| 6 SEP 89 | 7:20 | | 22.5 | 11.38 | | KD |
| 19 SEP 89 | 6:40 | | 22.6 | 11.28 | | KD |
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HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

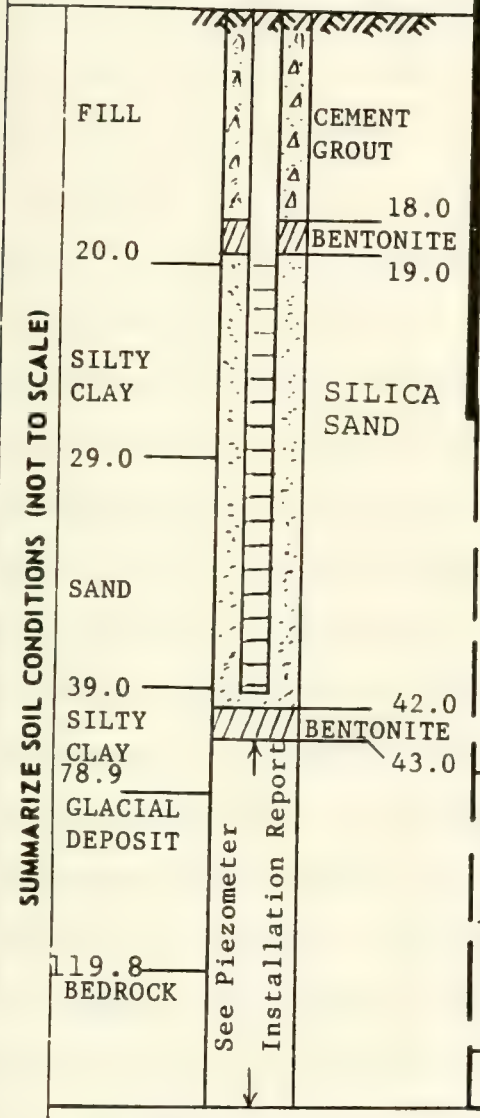
# GROUND WATER OBSERVATION WELL REPORT

PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: J. TEXEIRA INSPECTOR: S. KELLY
INSTALLATION DATE 13 JULY 1989

FILE NO. 05746-02
WELL NO. C110-0W
BORING NO. C110
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 27.62




| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.6 in. |
| THICKNESS OF SURFACE SEAL | 19.0 ft. |
| TYPE OF SURFACE SEAL [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | Cement Grou |
| TYPE OF CASING | Steel Roadway Box |
| INSIDE DIAMETER OF CASING | 6.0 in. |
| ELEVATION DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grout |
| DIAMETER OF BOREHOLE | 5.0 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 20.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 40.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 171.0 ft. |

Bottom of Exploration at 171.0 ft.

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [20.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. / LENGTH OF POINT ($L_2$) = 40.0 ft. / PAY LENGTH]

H&A FORM 59 SEP 72

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC110 OW | ELEVATION SUBTRAHEND: 27.62 | FILE NO. 05746-02 | PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 18 JUL 89 | 6:30 | | 18.6 | 9.02 | | KD |
| 9 AUG 89 | 12:00 | | 18.4 | 9.22 | | SK |
| 6 SEP 89 | 7:25 | | - | - | car obstruction | KD |
| 19 SEP 89 | 6:40 | | 19.6 | 8.02 | | KD |

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

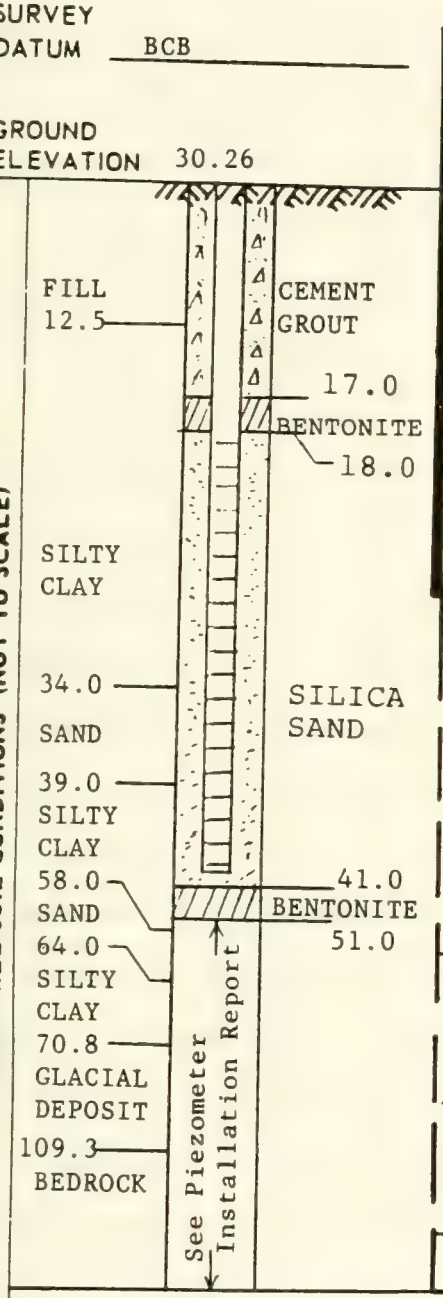
PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. Brouillette INSPECTOR: S. Kelly
INSTALLATION DATE 3 AUGUST 1989

FILE NO. 05746-02
WELL NO. CC111-0W
BORING NO. CC111
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 30.26

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 140.5 ft.

| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.4 ft. |
| THICKNESS OF SURFACE SEAL | 18.0 ft. |
| TYPE OF SURFACE SEAL | Cement Grou |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | Steel Roadway Box |
| INSIDE DIAMETER OF CASING | 6.0 in. |
| ELEVATION DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grou |
| DIAMETER OF BOREHOLE | 5.0 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 20.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 40.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 140.0 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [20.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. / LENGTH OF POINT ($L_2$)] = 40.0 ft. / PAY LENGTH

H&A FORM SEP 72 59

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC111 OW | ELEVATION SUBTRAHEND 30.26 | FILE NO. 05746-02 | PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 11 SEP 89 | - | | 22.9 | 7.36 | | SK |
| 19 SEP 89 | 6:40 | | 22.5 | 7.76 | | KD |
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HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

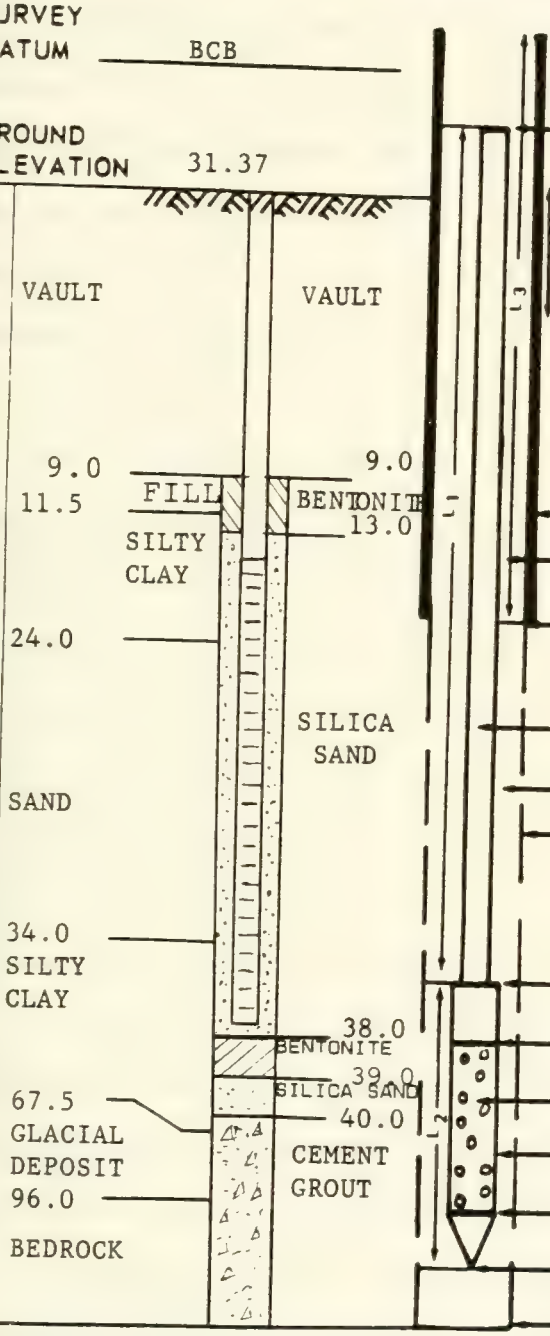
PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. Brouillette INSPECTOR: K. Dowe
INSTALLATION DATE 7 JUNE 1989

FILE NO. 05746-02
WELL NO. CC113-OW
BORING NO. CC113
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 31.37

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 116.0 ft.

| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE (STEEL PLATE) | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.0 ft. |
| THICKNESS OF SURFACE SEAL | 4.0 ft. |
| TYPE OF SURFACE SEAL | Cement Grou |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | NONE |
| INSIDE DIAMETER OF CASING | N/A |
| ELEVATION DEPTH OF BOTTOM OF CASING | N/A |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grou |
| DIAMETER OF BOREHOLE | 5.5 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 15.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 35.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 116.0 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[N/A LENGTH OF CASING $L_3$] [15.0 ft. LENGTH OF RISER PIPE ($L_1$)] + [20.0 ft. LENGTH OF POINT ($L_2$)] = 35.0ft. PAY LENGTH

H&A FORM SEP 72 59

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC113 OW | ELEVATION SUBTRAHEND 31.37 | FILE NO. 05746-02 | PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 9 JUN 89 | 7:00 | | 20.6 | 10.77 | | SK |
| 27 JUN 89 | 6:30 | | 22.4 | 8.97 | | KD |
| 6 JUL 89 | 7:00 | | 23.0 | 8.37 | | KD |
| 18 JUL 89 | 6:30 | | 23.1 | 8.27 | | KD |
| 4 AUG 89 | 6:00 | | - | - | car obstruction | SK |
| 19 SEP 89 | 6:40 | | 24.0 | 7.37 | | KD |

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

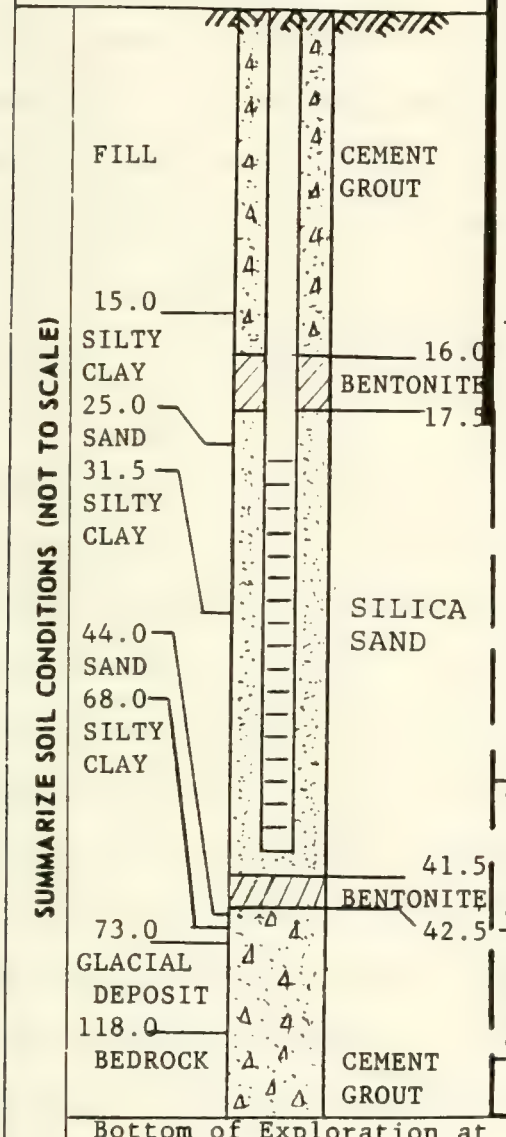
PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. Brouillette INSPECTOR: K. Dowe
INSTALLATION DATE 14 JULY 1989

FILE NO. 05746-02
WELL NO. CC114-OW
BORING NO. CC114
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 25.51

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 169.0 ft.

| | |
|---|---|
| ELEVATION OR STICKUP ABOVE / BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE / BELOW GROUND SURFACE OF RISER PIPE. | 0.17 ft. |
| THICKNESS OF SURFACE SEAL | 16.0 ft. |
| TYPE OF SURFACE SEAL | Cement Grout |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | Steel Roadway Box |
| INSIDE DIAMETER OF CASING | 2.0 in. |
| ELEVATION / DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grout |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ELEVATION / DEPTH OF BOTTOM OF RISER | 20.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ELEVATION / DEPTH OF BOTTOM OF POINT | 40.0 ft. |
| ELEVATION / DEPTH OF BOTTOM OF BOREHOLE | 169.0 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [20.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. / LENGTH OF POINT ($L_2$) = 40.0 ft. / PAY LENGTH]

H&A FORM SEP 72 59

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC114 OW | ELEVATION SUBTRAHEND 25.51 | FILE NO. 05746-02 | PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 3 AUG 89 | - | | 22.7 | 2.81 | | SMK |
| 19 SEP 89 | 6:40 | | 23.1 | 2.41 | | KD |
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HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

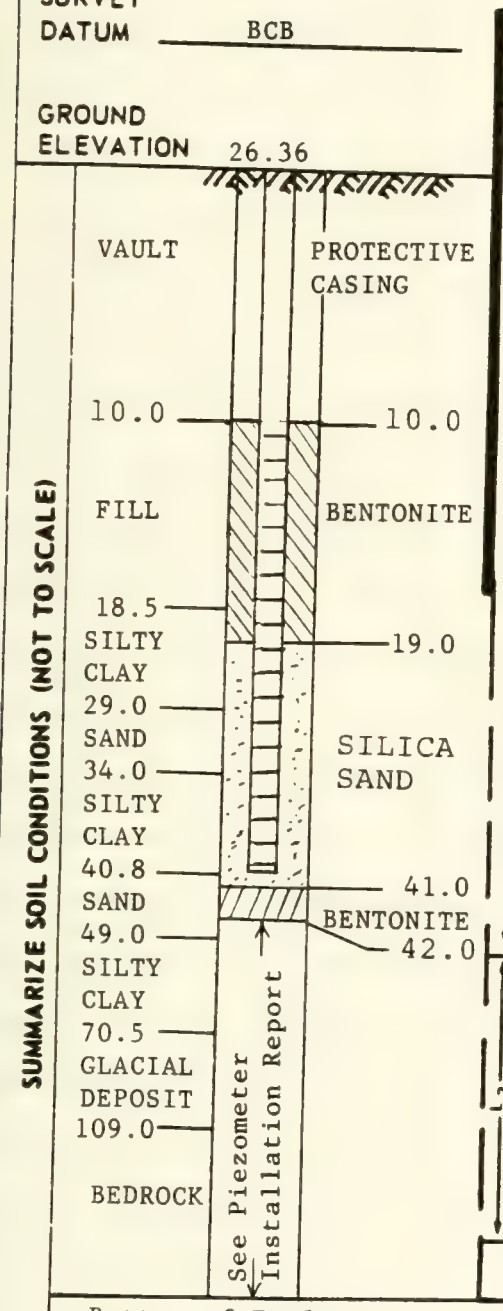
# GROUND WATER OBSERVATION WELL REPORT

PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. Brouillette INSPECTOR: B. Wilkinson
INSTALLATION DATE 11 AUGUST 1989

FILE NO. 05746-02
WELL NO. CC115-0W
BORING NO. CC115
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 26.36




SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)

| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE (CASING) | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.5 ft. |
| THICKNESS OF SURFACE SEAL | 12.0-19.0ft |
| TYPE OF SURFACE SEAL | Bentonite |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | 10 ft. Protective Casing |
| INSIDE DIAMETER OF CASING | 3.35 in. |
| DEPTH OF BOTTOM OF CASING | 10.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Protective Casing/ Bentonite |
| DIAMETER OF BOREHOLE | 4.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 20.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in |
| TYPE OF BACKFILL AROUND POINT | Ottawa Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 40.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 137.0 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[10.0 ft. / LENGTH OF CASING $L_3$] [20.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. / LENGTH OF POINT ($L_2$) = 40.0 ft. / PAY LENGTH]

H&A FORM 59 SEP 72

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC115 OW | ELEVATION SUBTRAHEND 26.36 | FILE NO. 05746-02 | PAGE NO 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 6 SEP 89 | 7:45 | | 23.35 | 3.01 | | KD |
| 19 SEP 89 | 6:40 | | 26.0 | 0.36 | | KD |

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

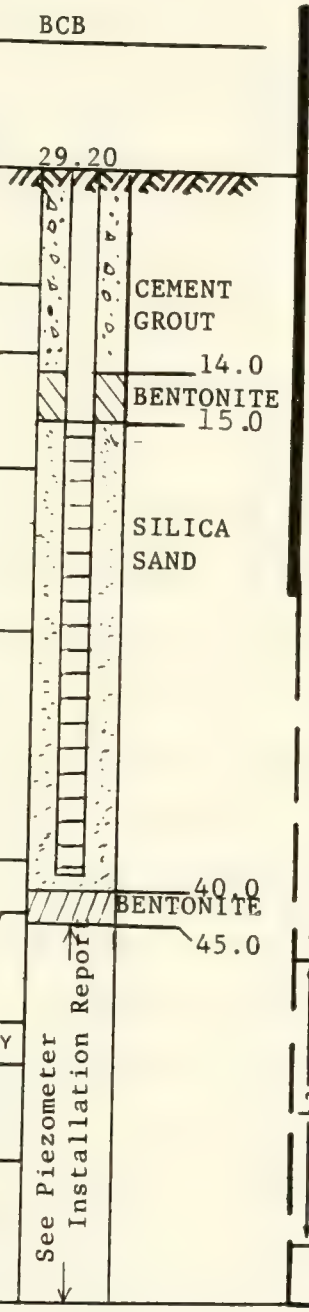
PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: G. Brouillette INSPECTOR: K. Dowe
INSTALLATION DATE 2 JUNE 1989

FILE NO. 05746-02
WELL NO. CC 117-0W
BORING NO. CC117
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 29.20

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 109.5 ft.

| | |
|---|---|
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE BELOW GROUND SURFACE OF RISER PIPE. | 0.5 ft. |
| THICKNESS OF SURFACE SEAL | 14.0 ft. |
| TYPE OF SURFACE SEAL | Cement Grou |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | 5 in. Roadway Box |
| INSIDE DIAMETER OF CASING | 2.0 in. |
| ELEVATION DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grou |
| DIAMETER OF BOREHOLE | 5.5 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 17.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 37.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 109.5 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [17.0 ft. / LENGTH OF RISER PIPE ($L_1$)] + [20.0 ft. / LENGTH OF POINT ($L_2$)] = 37.0 ft. / PAY LENGTH

H&A FORM 59 SEP 72

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER CC117 OW | ELEVATION SUBTRAHEND 29.20 | FILE NO. 05746-02 | PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 9 JUN 89 | 7:00 | | 22.3 | 6.90 | | SK |
| 27 JUN 89 | 6:30 | | 22.5 | 6.70 | | KD |
| 6 JUL 89 | 7:00 | | 22.7 | 6.50 | | KD |
| 18 JUL 89 | 6:30 | | 22.6 | 6.60 | | KD |
| 4 AUG 89 | 6:00 | | 22.1 | 7.10 | | SK |
| 6 SEP 89 | 8:00 | | 22.3 | 6.90 | | KD |
| 19 SEP 89 | 6:40 | | 22.45 | 6.75 | | KD |
| | | | | | | |
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HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

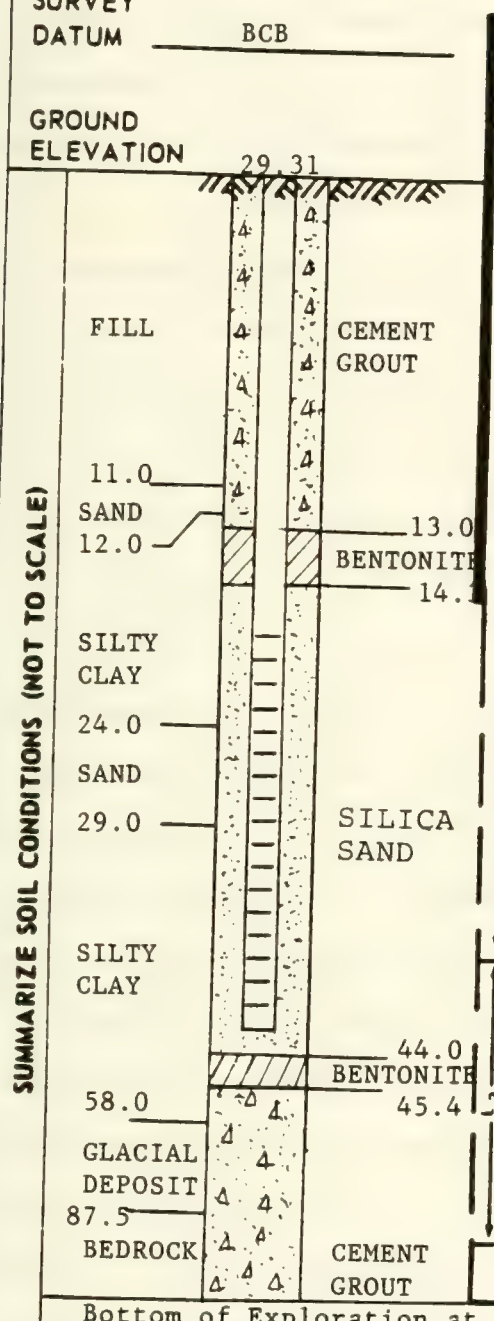
PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: K. Fisher INSPECTOR: K. Dowe
INSTALLATION DATE 25 JULY 1989

FILE NO. 05746-02
WELL NO. CC202-OW
BORING NO. CC202
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 29.31

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




| | |
|---|---|
| ELEVATION OR STICKUP ABOVE/BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE/BELOW GROUND SURFACE OF RISER PIPE. | 0.4 ft. |
| THICKNESS OF SURFACE SEAL | 13.0 ft. |
| TYPE OF SURFACE SEAL | Cement Grout |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | Steel Roadway Box |
| INSIDE DIAMETER OF CASING | |
| ELEVATION DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grout |
| DIAMETER OF BOREHOLE | 4.0 in. |
| ELEVATION DEPTH OF BOTTOM OF RISER | 19.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ELEVATION DEPTH OF BOTTOM OF POINT | 39.0 ft. |
| ELEVATION DEPTH OF BOTTOM OF BOREHOLE | 137.5 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [19.0 ft. / LENGTH OF RISER PIPE ($L_1$)] + [20.0 ft. / LENGTH OF POINT ($L_2$)] = [39.0 ft. / PAY LENGTH]

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC202 OW | ELEVATION SUBTRAHEND 29.31 | FILE NO. 05746-02 | PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 6 SEP 89 | 8:00 | | 28.05 | 1.26 | | KD |
| 19 SEP 89 | 6:40 | | 28.15 | 1.16 | | KD |
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HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

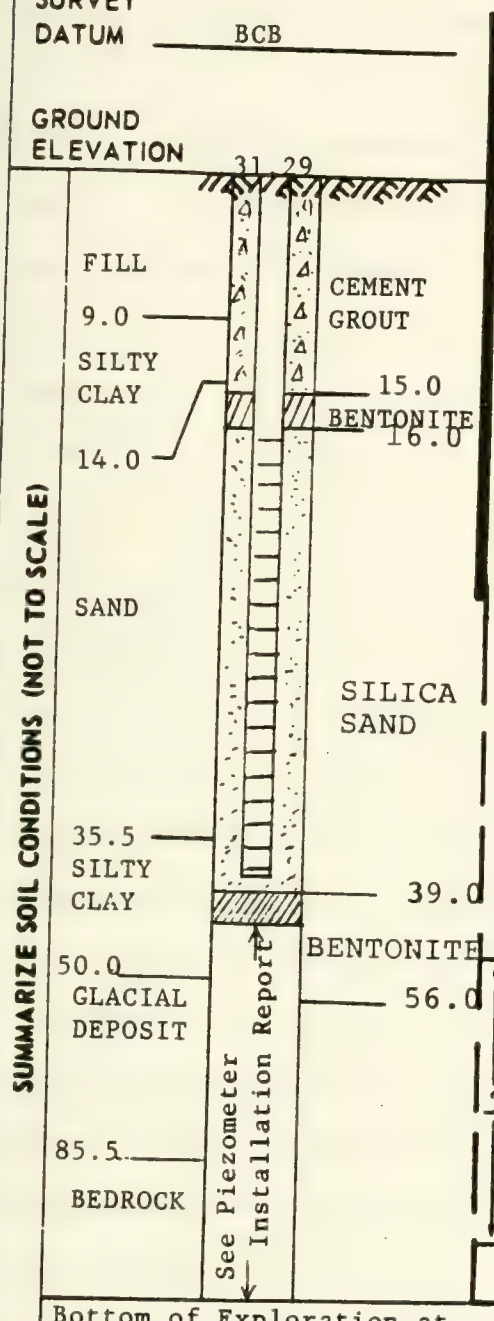
PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: J. Texeira INSPECTOR: S. Kelly
INSTALLATION DATE 20 JUNE 1989

FILE NO. 05746-02
WELL NO. CC203-OW
BORING NO. CC203
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 31.29

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




Bottom of Exploration at 145.0 ft.

| | |
|---|---|
| ELEVATION OR STICKUP ABOVE/BELOW GROUND SURFACE OF CASING OR ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP ABOVE/BELOW GROUND SURFACE OF RISER PIPE. | 0.75 ft. |
| THICKNESS OF SURFACE SEAL | 16.0 ft. |
| TYPE OF SURFACE SEAL | Cement Grout |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | Steel Roadway Box |
| INSIDE DIAMETER OF CASING | 5.0 in. |
| ELEVATION/DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | 2.0 in. |
| TYPE OF BACKFILL AROUND RISER | Cement Grout |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ELEVATION/DEPTH OF BOTTOM OF RISER | 18.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Silica Filter Sand |
| ELEVATION/DEPTH OF BOTTOM OF POINT | 38.0 ft. |
| ELEVATION/DEPTH OF BOTTOM OF BOREHOLE | 145.0 ft. |

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [18.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 20.0 ft. / LENGTH OF POINT ($L_2$) = 38.0 ft. / PAY LENGTH]

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC203 OW

ELEVATION SUBTRAHEND 31.29

FILE NO. 05746-02

PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM Ground surface | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 27 JUN 89 | 6:30 | | 27.05 | 4.24 | | KD |
| 6 JUL 89 | 7:00 | | 27.1 | 4.19 | | KD |
| 18 JUL 89 | 6:30 | | 27.2 | 4.09 | | KD |
| 4 AUG 89 | 6:00 | | 27.3 | 3.99 | | SK |
| 6 SEP 89 | 7:00 | | 27.3 | 3.99 | | KD |
| 19 SEP 89 | 6:40 | | 27.3 | 3.99 | | KD |

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER OBSERVATION WELL REPORT

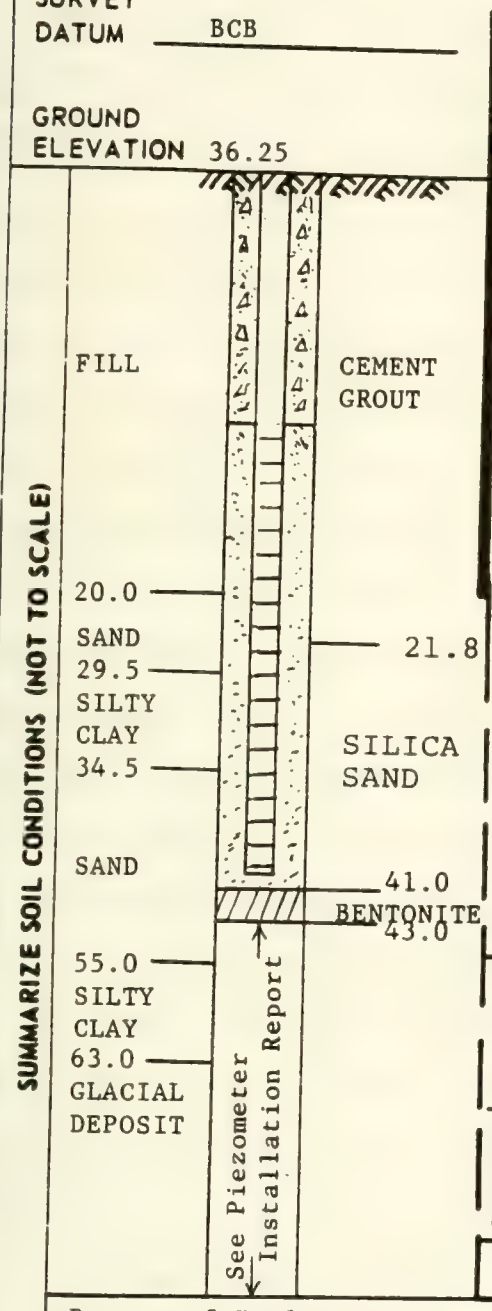
PROJECT: COMMONWEALTH CENTER PROJECT
LOCATION: BOSTON, MASSACHUSETTS
CLIENT: F. D. RICH CO.
CONTRACTOR: GUILD DRILLING CO.
DRILLER: J. Texeira INSPECTOR: S. Kelly
INSTALLATION DATE 15 MAY 1989

FILE NO. 05746-02
WELL NO. CC204-OW
BORING NO. CC204
LOCATION See Plan
SHEET 1 OF 1

SURVEY DATUM BCB

GROUND ELEVATION 36.25

SUMMARIZE SOIL CONDITIONS (NOT TO SCALE)




| | |
|---|---|
| ELEVATION OR STICKUP ABOVE GROUND SURFACE OF ROADWAY BOX | 0.0 ft. |
| ELEVATION OR STICKUP BELOW GROUND SURFACE OF RISER PIPE. | 0.0 ft. |
| THICKNESS OF SURFACE SEAL | 21.0 ft. |
| TYPE OF SURFACE SEAL | Cement Grout |
| [INDICATE ALL SEALS SHOWING DEPTH, THICKNESS AND TYPE] | |
| TYPE OF CASING | Roadway Box |
| INSIDE DIAMETER OF CASING | 6.0 in. |
| ELEVATION/DEPTH OF BOTTOM OF CASING | 2.0 ft. |
| INSIDE DIAMETER OF RISER PIPE | |
| TYPE OF BACKFILL AROUND RISER | Cement Grout + Filter Sand |
| DIAMETER OF BOREHOLE | 4.5 in. |
| ELEVATION/DEPTH OF BOTTOM OF RISER | 24.0 ft. |
| TYPE OF POINT OR MANUFACTURER | Machine Slotted PVC |
| SCREEN GAUGE OR SIZE OF OPENINGS | 0.010 in. |
| DIAMETER OF WELLPOINT | 2.0 in. |
| TYPE OF BACKFILL AROUND POINT | Filter Sand |
| ELEVATION/DEPTH OF BOTTOM OF POINT | 39.0 ft. |
| ELEVATION/DEPTH OF BOTTOM OF BOREHOLE | 81.0 ft. |

Bottom of Exploration at 81.0 ft.

[FIGURES REFER TO: EL. ____ DEPTH X]

[2.0 ft. / LENGTH OF CASING $L_3$] [24.0 ft. / LENGTH OF RISER PIPE ($L_1$) + 15.0 ft. / LENGTH OF POINT ($L_2$) = 39.0 ft. / PAY LENGTH]

HALEY & ALDRICH, INC.
CAMBRIDGE, MASSACHUSETTS

# GROUND WATER MONITORING REPORT

OW/PZ NUMBER: CC204 OW | ELEVATION SUBTRAHEND 36.25 | FILE NO. 05746-02 | PAGE NO. 1

| DATE | TIME | ELAPSED TIME | DEPTH OF WATER FROM ~~Ground surface~~ | ELEVATION OF WATER | REMARKS | READ BY |
|---|---|---|---|---|---|---|
| 2 JUN 89 | 6:00 | | 30.3 | 5.95 | | SK |
| 9 JUN 89 | 7:00 | | 30.3 | 5.95 | | SK |
| 27 JUN 89 | 6:30 | | 30.3 | 5.95 | | KD |
| 4 AUG 89 | 6:00 | | 30.2 | 6.05 | | SK |
| 6 SEP 89 | 7:00 | | - | - | car obstruction | KD |
| 19 SEP 89 | 6:40 | | 30.35 | 5.90 | | KD |
| | | | | | | |
| | | | | | | |
| | | | | | |

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